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EDALJEE CA

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THE
PRACTITIONER'S
VADE MECUM.

Ernest Hart Esq



A PRACTICAL WORK

ON

*New Materia Medica, Modern Therapeutics
(Physiological, Medical & Clinical) and
Recent Treatment of Diseases met with
in all Branches of Medical Practice,
including various other Subjects
connected with the Practice
of Medicine.*

BY

EDALJEE CAWASJEE APPU (TUKINA) L.M. & S.

FIRST EDITION.

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In Memory

OF

THE LATE LAMENTED

JAMSETJEE NESSERWANJEE PETIT Esquire., J. P.,

WHO,

AS A POET AND A PHILANTHROPIST,

ALWAYS EVINced A WARM INTEREST IN THE ADVANCEMENT

OF HIS PEOPLE AND OF THE CAUSE OF EDUCATION, WHO

WAS A LIBERAL PATRON OF SCIENCE AND ART, AND A

READY SUPPORTER OF THE POOR, THE NEEDY AND

THE DESERVING, AND WHO, HAD GOD BEEN

PLEASED TO SPARE HIM, WOULD HAVE BEEN

THE PRIDE OF HIS PEOPLE AND AN

ORNAMENT TO SOCIETY,

THIS WORK

IS,

AS AN HUMBLE TOKEN

OF

DEEP VENERATION AND ADMIRATION

FOR

HIS MANY STERLING & NOBLE QUALITIES

OF

MIND AND HEART,

Respectfully Dedicated

BY

THE AUTHOR.

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PREFACE.



MY object in offering this large work to the medical practitioners and the medical students is to supply a full, accurate and reliable account of (1) the pharmacology and therapeutics of all the new officinal as well as non-officinal drugs and remedies, including the rare alkaloids, glucosides, chemicals and the active principles of many important drugs, that have been, of late years, brought into use in Europe and to a far greater extent in America especially, (2) the modern therapeutics and new practical uses of the important and commonly employed old drugs and remedies, (3) the recent and practical methods of treatment of diseases met with in all branches of medical practice, (4) the important diagnostic points in diseases which simulate each other and are difficult to be easily diagnosed, and (5) many other miscellaneous subjects of importance intimately connected with, and required in, the practice of medicine, and (6) to popularise the use of many of these new and most useful drugs and remedies in particular.

With regard to the use of '**New Remedies,**' disappointment is too frequently experienced when these, which are highly vaunted by others, are put to the test of clinical experience in one's own practice. Yielding to this sense of disappointment, we are always liable to look with incredulous eyes upon the claims of new drugs, and consequently, deprive ourselves of many a useful addition to our therapeutical resources. This is a danger to be guarded against. Failure may possibly be due to a faulty selection of suitable cases on our own part, to idiosyncrasy on the part of the patient, or to some error in the proper method of administration, or in the proper dosage. We ought therefore to give the drug a fair and impartial trial, and to judge of the results with unbiassed minds. Even one useful addition to our armamentarium out of a hundred useless ones may be reckoned as a good work done for the cause of medicine. What might, as far as previous knowledge and means of treatment

are concerned, have proved an intractable or even hopeless case, may, by the good effects of the new and useful remedy, be brought to a favourable issue. I have made numerous trials of the efficacy of many of the new drugs in the treatment of various diseases met with in my daily practice and have expressed the results of my personal experience with them.

The work will prove, in many cases, an invaluable guide for ready reference and practical use, to the busy practitioner, for whom it is specially designed, in his daily and hourly practice, will afford him all kinds of precious information on various subjects intimately connected with, and required in, medical practice, will remind him of anything that may have escaped his notice, and will thus most possibly enable him to successfully combat against the most obstinate and serious diseases in which all his previous knowledge, ordinary remedies, and plans of treatment, may have failed. Simultaneously it will prove still more valuable to the beginners in practice for increasing the medical knowledge they may have already possessed and for affording them success in their fresh practice, and to the students during their college career.

The work is a compilation (1) from a very large number of practical notes, possessed by me during the period of last twelve years from an extended course of reading of the principal medical publications of the world, and comprising, among other things, abstracts of clinical lectures, reports, and papers read before the leading medical societies, by well-known medical authorities in Europe, America and India, and select prescriptions, formulæ &c., (2) from the working bulletins for the collective investigation of new remedies issued from time to time by the scientific department of Parke, Davis & Co., (Detroit, Mich., U. S. A.), and (3) from a few selections from Indian medical books published in English and Vernacular languages. All these have been alphabetically arranged, classified and eventually placed at the disposal of the medical profession, in this book form, after undergoing much pains and exertions for more than twelve months. In preparing this work, the utmost care and circumspection have been exercised in endeavouring to render it as eligible, practical

and reliable as possible and worthy of the acceptance of the practitioners and students of medicine, and to exclude anything that could be considered in any way superfluous and theoretical. It will be seen at once that the whole work is generally illustrated by select clinical reports and cases, that all the data in the work are obtained from the long experience and vast hospital and private practice of known medical authorities in various parts of the world, and that I have largely drawn upon these authorities throughout the work.

The work is divided into three parts, the contents of which are mentioned in details at the commencement of each of these parts, *i.e.*, of Part I. at pg. 1, of Part II. at pg. 777, of Part III. at pg. 1279. (*quo vide*).

Part I. containing 776 pages, deals with the **New Materia Medica and their Therapeutics and the Modern Therapeutics**. In describing the pharmacology and therapeutics of each new drug, the following order is generally adopted:—(1) *The Name* of the drug. (2) *Synonyms* in different languages. (3) *Part* employed in medicine. (4) *Natural Order*. (5) *Habitat*. (6) *Botanical Characters or Description* of the plant and of its part employed in medicine. (7) *Tests*, if the drug be an inorganic substance. (8) *Chemical Composition*. (9) *History and Early Uses*. The perusal of these will be interesting to the reader and will afford him some information on the medicinal properties and uses of the drug. (10) *Physiological Actions* as determined from experiments made upon animals and even in some cases upon man. The perusal of these will greatly assist the reader in studying the therapeutical actions of the drug. (11) *Therapeutical Actions*. First all the general therapeutical properties, uses and indications of the drug are simply enumerated. Then, for the ready reference and convenience of the practitioner, the name of the disease in which the drug is particularly beneficial is mentioned as a separate heading *in italics*, and then its treatment by the said drug is described; in those cases where a drug is beneficial in various diseases belonging to a particular organ, apparatus or system of the human body, the name of the latter is mentioned first *in italics* and then the name of each of the diseases is mentioned

separately in *italics*. The *modus operandi* of a drug in the treatment of a disease is also properly explained. (12) *Clinical Reports and Cases* published by high well-known authorities from their long experience and vast hospital and private practice. These form the most interesting and practical portion of the therapeutics and are arranged with reference to the diseases in which the drug has been tested, or with reference to the nature of its action upon the human system. Their careful perusal will afford to the reader good knowledge and conviction of the efficacy and usefulness of the drug in the treatment of diseases. (13) *Contra-indications*. (14) *Toxicology*. (15) *Preparations*, officinal as well as non-officinal. (16) *Doses*, maximum, average and minimum, and both for adults and children. (17) *Remarks* in few cases.

Each old drug is described with reference to all its new therapeutical properties and practical uses. Clinical observations and reports are also mentioned in few cases. But no pharmacology is given as it is already known to all practitioners and is described in all text-books on pharmacology. Then follows a brief description of the pharmacology and therapeutics of all the rare alkaloids, glucosides, Chemicals, including the active principles of many important drugs. Lastly, a full extra list of maximum doses, single and daily, of the new and rare remedies, and the rules for the graduation of the doses of powerful medicaments when administered to children and to the old, complete this part.

Part II. containing 502 pages, deals with an elaborate therapeutical classification of all the new and old European, American and many well-known Indian drugs, both officinal and non-officinal, and the recent and practical treatment of diseases—from infancy to old age—met with in all branches of medical practice. The therapeutical classification of remedies, which nearly represents a therapeutical classification of the universal drugs and remedies, is grouped in alphabetical order. All the remedies in each group are also placed in the alphabetical order, of which the most effective and specific remedies are placed in *italics*; and some are placed with reference to the page in Part I, where the remedy in question is des-

cribed. Next each disease is named and put in an alphabetical order, like each drug and remedy in Part I, and its medicinal and dietetic treatment is described as follows :—1stly, full descriptions of treatment in the form of abstracts of papers read, and clinical lectures delivered, before the leading medical societies &c., by well-known medical authorities, and of the various plans and methods &c., of treatment recommended by them, are mentioned. The most effective and specific descriptions, plans and methods of treatment have in many cases the abbreviation ‘Sp.’ affixed to them. The remedies, plans and methods recommended in the treatment of a disease are mentioned first in separate headings in **bold** types. The descriptions, plans and methods of treatment are further illustrated by clinical reports and cases in case of many diseases. Even in describing the treatment of poisoning by various drugs, remedies and agents, the full descriptions of the cases, including the symptoms and the procedure of treatment adopted therein, are mentioned. In some cases the *modus operandi* of a method of treatment is well explained, and the plans of treatment employed by different nations are also described. 2ndly, a number of practical and select prescriptions and formulæ is given, of which, the most effective and specific are placed foremost, and have, in most cases, the abbreviation ‘Sp.’ affixed to them. They are composed of many well-tried remedies of the British Pharmacopœa upto date, as well as of new and latest American drugs, and in few cases, of Indian drugs. The name of the authority, who has recommended the full description or plan of treatment, or the prescription or formula, is mentioned along with each paragraph describing any of these. But in some rare cases the name of the authority, is not mentioned, and in its place, a mark of interrogation, thus (?) is put down, because his name was not mentioned in my original manuscripts, as I had primarily no thought of publishing a medical work. 3rdly, a complete alphabetical list of all the old and new and few reliable Indian remedies that are useful in the treatment of the same disease is mentioned, and the most effective and specific remedies in this list are printed in *italics*. For the ready reference and convenience of the practitioner, I have mentioned the number of page in case of those remedies to which reference in the Part I, is especially needed owing to their being either illustrated

in the form of prescriptions, or described fully as to their uses in the treatment of diseases. (*Vide* pg. 779). 5thly, a complete description of the dietetic treatment or dietary of important diseases finishes this practical and important part of the work.

Part III. which contains 50 pages, is devoted to a full and practical account of **Chloroform Anæsthesia, Signs and Proofs of Death, Causes of Sudden Death**, the important **diagnostic points**, in diseases of children and other diseases which simulate each other, and other **miscellaneous subjects and brief practical notes** connected with, and required in, the practice of medicine.

An elaborate, well-arranged and separate index containing all the synonyms has been given for each of these three parts, at the end of the third part. For searching a particular drug, remedy and disease, the reader is requested to refer always the index, because in few instances, the same article is described at two or three different pages in the work.

I beg to convey my sincerest thanks to Messrs. Parke, Davis and Co., for frequently forwarding to me their working bulletins for the scientific investigation of new remedies which materially assisted me in bringing to perfection the Part I, and also for liberal samples of new remedies which enabled me in trying the efficacy of these remedies before I could order out them in large quantities.

In conclusion, I trust that my work will be generally appreciated and patronized by my professional brethren, so that I shall consider myself amply rewarded for the good deal of exertions and expense undergone in its publication, and that it will prove an acceptable and valuable contribution to the history of new remedies and recent and practical treatment of diseases, and that I shall be excused for any mistakes or defects that may exist, considering this to be my first attempt at publishing this work.

EDALJEE CAWASJEE APPU (TUKINA).

Bombay, July 1891.

The
Practitioner's
Vade Mecum.

ADDENDA ET CORRIGENDA.

Page.	Line.	INCORRECT.	CORRECT.
9	9	For eruptions &c.	As lotion for eruptions &c.
9	11	As Lister's dressing for washing &c.	As wash (Lister's dressing) for &c.
57	30	with	within.
86	13	feets	feet.
104	above the line	27	Add " BLACKBERRY. "
112	15	of	off.
153	22	CASCARA CORDIAL ELIXIR.	CASCARA CORDIAL OR ELIXIR
		CASCARA SAGRADA OR	CASCARA SAGRADA
191	29	genitle	genital.
229	13	case	cases.
353	34	bought	brought.
355	33	and	add.
382	23	coxmection	connection.
397	25	<i>Affections</i>	<i>Pulmonary Affections.</i>
427	32	feet	foot.
454	17 & 18	other considerable	ether considerably.
505	1	Naphalal	Naphthalol.
517	13	Cladular	Glandular.
556	29	contained	continued.
613	24	givining	giving.
651	9	perversion	perversion
769	1	pressed	peeled.
861	21	powes	powers.
903	9	'alo' 'summur'	'also' 'summer.'
904	16	brillient	bullientis.
911	21	our	hour.
913	30		Omit "of sweet."
943	4	<i>Hot Water</i> 677	<i>Hot Water</i> 737
978	33	andd glass	and gleet.
992	12	2	20.
1165	5	siskness	sickness.
1205	26	apolexy	apoplexy.
1231	above the line	7	Add " ENLARGEMENT OF THE TONSILS. "

PART I.



CONTENTS.

The botanical origin, distribution, characters, physiological and therapeutical properties, practical uses, clinical observations and reports from hospital and private practice, preparations and doses of new drugs and medications, officinal and non-officinal.

New therapeutics and more recent practical uses and clinical reports of some of the most important and commonly used old drugs.

Therapeutics and doses of rare alkaloids, glucosides, chemicals, &c. including the active principles of many important drugs.

List of Maximum doses of new remedies.

ABBREVIATIONS.



Ac. for Acute.

Ch. for Chronic.

E. for External.

F. for Formula or Number of Prescription.

Ft. for Fiat.

Ger. for German.

gr. for grain.

grm. for gramme.

Guj. for Gujerati.

Ind. for Indian.

I. for Internal.

M. for Misce.

Mn. or Min. for Minim.

N. O. for Natural Order.

O. for Pint.

P. for Powerful.

Ph. for Pharmacopœa.

Sp. for Specific.

Syn. for Synonym.

t. d. for thrice a day.

ABRUS PRECATORIUS.

Synonyms, Indian Liquorice, Jamaica Wild Liquorice ; the seeds called Jequirity, (Guj. or Ind.) Rati, Chanothi, Gunz.

Part employed.—The seeds.

Natural order.—Leguminosæ.

Habitat.—India, South America, Pacific Islands, West Indies and tropical Africa.

Characters.—It is remarkable for its small globose seeds of a brilliant scarlet colour with a black scar. These seeds are much used in India in the arts, for necklaces and other ornamental purposes and are employed as a standard of weight under the name of ‘Rati,’ ‘Chanothi’ or ‘Gunz.’ The roots are made use of in the same manner as the liquorice root.

The seeds, commonly called “Jequirity” in America, contain an albuminous constituent of a poisonous nature; this is one hundred times more poisonous than the strychnine and is similar in its action to the poison which may be extracted from castor oil seeds. Like all albuminous seeds it loses its activity when boiled and consequently the seeds when cooked may be even used as food.

An infusion of these seeds has long been used in Brazil as a popular remedy in ophthalmic affections. It has now been used in trachoma, pannus &c.

Direction.—Take 32 seeds and pulverize them, add 500 grammes of cold water and macerate for 24 hours; then add 500 grammes of hot water, filter when cooled and with this infusion the eyes to be bathed several times a day until sufficient irritation is set up; after the first application irritation of the conjunctiva can be noticed; on the second day there is severe inflammatory process present, with œdema of the eyelids and lachrymation. After 3 days a stage of suppuration sets in, lasting from 5 to 15 days, when it gradually ceases and the patient is free from pannus and granulations.

ABSINTHIUM. (THE DRIED HERB OF ARTEMISIA ABSINTHIUM.)

Syn. Wormwood.

Part employed.—The flowering tops.

N. O.—Compositæ.

Habitat.—Europe, South America and India.

Characters.—It occurs in bundles of the dried herbs, of a brownish white or ash colour, having a silky touch, an agreeable odour, due to the volatile oil it contains, and of an intensely bitter taste. The flowers are small, yellow coloured, abundant and in racemes; they are hoary and ashy on their under surface.

Physiological action.—It has a remarkably tonic influence upon the brain, and especially upon those higher mechanisms of the organ which are so intimately associated with psychical function.

Therapeutical action.—As a medicinal agent the drug possesses febrifuge, stomachic, deobstruent, diaphoretic, anthelmintic, antiseptic and slightly narcotic properties; it is a good aromatic bitter tonic. It has been employed in the treatment of epilepsy, chorea and digestive disorders, while before the introduction of cinchona bark it was used in intermittent fever. But, whatever be its value in other conditions, it is a valuable remedy in the treatment of those exhaustive conditions of the cerebro-spinal axis commonly known as “neurasthenia”; because it dissipates in a few moments the hebetude, depression, and indefinable sensations of malaise from which such patients periodically suffer. In depression, hypochondriasis, and irritability, absinthe serves an excellent purpose; for, by a conservative exhibition of the drug, the distressing psychical features of the case may be modified or entirely obliterated, for a time at least. This power of promptly relieving the most exigent symptoms, those of a mental character, are of vast importance, since it enables the physician to render the condition of the patient comparatively comfortable, while remedies, potent, though lethargic in their action, may be employed for the permanent eradication of the disease (Dr. Cornin). Long continued use of absinthe in the shape of bitters has an injurious effects upon the nervous system.

Lastly absinthe is useful in fevers, jaundice, dropsy, hysterical affections and strangury. As a fomentation wormwood is of the greatest value; steeped in vinegar, and bound round a sprain or briuse, it speedily removes the pain, reduces the swelling, and prevents the discoloration of the parts. The infusion is useful as an anthelmintic per rectum, to the amount of a pint for an adult.

Preparations and doses.—Herb, 10 to 60 grs.

Infusion (1 to 20) fz. 1 to fz. 2, for an adult. It strikes blue with iron salts.

Fl, Ext., 5 to 60 mins. for an adult.

Solid Ext. 1 to 10 grs. „

Tr. (Ph. Ger. 1 to 5) $\frac{1}{2}$ to 2 drs. for an adult.

Oil, 1 to 5 mins. for an adult.

ACETO-TARTRATE OF ALUMINIUM.

The salt is obtained by dissolving basic (the ordinary insoluble) acetate of aluminium in a solution of tartaric acid, or by mixing a solution of acetate of aluminium with tartaric acid, and evaporating either solution to dryness. Five parts of aluminium require about two parts of tartaric acid.

A non poisonous, yet caustic, disinfectant and antiseptic agent. It is useful as a slight local irritant in various affections of the nasal fossæ, face, pharynx and larynx. It is soluble in water, ether, alcohol and glycerine. In contact with the mucous membrane, it produces a superficial cauterization, accompanied by an effusion of serum. It is useful as a local application, mixed with an equal part of boric acid or some inert powder or may be applied on cotton, soaked with 20 to 25 per cent solution in water. Through its use good results have been obtained in nasal polypi, ozœna and chronic hypertrophic rhinitis. Applied to the nasal mucous membrane, it produces some coryza, headache, and momentary olfactory anæsthesia. The salt is recommended as a mild astringent and antiseptic in place of carbolic or salicylic acid.

ACID ANISIC.

It is obtained from the oil of aniseed. It is a new antipyretic and antiseptic. It possesses antipyretic and antiseptic properties similar to those of salicylic acid. It also increases arterial tension. It has however a mild toxic effects in large doses. Has been employed with success as an antiseptic in the treatment of wounds and has no poisonous effect when employed in this way.

ACID BORACIC OR BORIC.

It has a disinfectant and antiferment properties. The disease in which it has given complete satisfaction is the chronic sup-puration of the middle ear (otitis media). It may be used in this disease in the form of a watery or alcoholic solution, or the ointment or the impalpable powder in its pure state, according to the indications of the case. It is quite soluble in hot water, in which form it is useful as a dressing during operations. In an alcoholic solution, the liquid rapidly evaporates, leaving the parts, on which it is poured or applied, dry with a coating of the acid over them, thus becoming a most suitable dressing for ulcers and foetid sores. Boric acid is the best remedy in simple cases of purulent catarrhs of the ears in children and adults and also in cases where the middle ear is filled with furunculous mass of tissue; these granulations shrink and disappear under boracic acid. Administered internally in 10 grs. doses it is very beneficial in cases of cystitis, with strongly ammoniacal urine containing flakes of mucus, and much scalding.

It is very useful in diseases of the eye, especially purulent ophthalmia. Prepare a solution of 15 grs., to an ounce of water, of this let about 2 drs. run down between the folds of the eyelids, after first washing out the eyes for 5 or 10 minutes; it stops discharge almost at once.

Boracic acid is also useful in foetid eczema, foetid transpirations of the feet and in the intertrigo and erythema of new born infants. Strength is drms. $1\frac{1}{2}$ of the acid to drms. $7\frac{1}{2}$ of vaseline. A drms. of the acid boric with $7\frac{1}{2}$ grs. of the benzoic acid and 5 drms. of vaseline, promptly relieves pain and causes disappearance of the

boils in 3 or 4 days. It is useful in the antiseptic treatment of the transparent media of the eyes where carbolic acid is inadmissible. As an injection in the proportion of 2 parts of acid to 60 parts of water in vesical troubles as cystitis, &c., with decomposition of urine, it is very useful. Owing to its antiseptic, disinfectant & parasiticide properties, it is an useful dressing for wounds of mucous surfaces.

Eczema, impetigo and intertrigo of children, are rapidly relieved by boracic acid, either in powder mixed with starch or Fuller's earth, or as an ointment. As a powder mixed with starch, it serves to destroy the odour from the axilla or feet. It is useful in all conditions of the mouth, fauces, pharynx and nose, where there is any abrasion of the epithelium, whether it be used as a powder, gargle, pigment or confection. In simple catarrhal stomatitis, a mouth wash containing 10 to 15 grs. to an ounce is very effective and in the ulcerated form, besides the gargle, simple powder or the pigment, should be applied to each ulcer; the powder simply consists of boric acid in various proportions with starch and the pigment consists of one of boric acid with 4 or 5 of glycerine. In both cases addition of potass. chloras is of advantage. It is specific in thrush or parasitic stomatitis, and combined with borax in these cases. In pharyngitis and relaxed condition of the throat, a gargle consisting of boric acid, tannic acid or alum with glycerine is very useful. In severe cases of typhoid fever, where the mouth is hot, lips dry, cracked and glued, sordes on the teeth, foetid fur on the tongue, a pigment consisting of boric acid grs. 20, potass chloras grs. 20, lemon juice 5 drms. and glycerine oz. 3 is very effective. Lastly boric acid is an useful ingredient in tooth powders.

BORATE OF QUINOIDINE.

It has been used with excellent results in intermittent fevers. It is particularly useful in those countries where fevers are endemic. 3 grs. of borate of quinoidine have the same effect as 2 grs. of sulphate of quinine.

ACID CAMPHORIC.

Aqueous solutions containing from 5 to 7·0 per cent. of camphoric acid are useful in all cases of abrasions or ulceration of the mucous membrane, with immediate benefit, since it does not cause irritation; a little alcohol to be added as it is sparingly soluble in water alone. In tracheitis, laryngitis and bronchitis, the strength of the spray solution gradually increased from ·5 to 2·5 per cent. Severe catarrh is quickly alleviated by brushing the nasal surfaces over with a $2\frac{1}{2}$ per cent. solution or by the application of plugs of lint soaked with the same. It has been found useful for erysipelas and eczema, in the form of an ointment composed of 2 parts of lanoline, 3 of vaseline, with 4 per cent. of camphoric acid.

ACID CARBLIC OR PHENIC.

Besides the already known therapeutics of carbolic acid, it is used as a spray, in the strength of a 2 per cent. solution for catarrh, whooping cough, other obstinate coughs and in cases of measles. As an inhalation for bronchial catarrh, in the proportion of 5 parts of the acid, 5 parts of alcohol, 6 parts of liq. ammonia, it is very useful. A strong solution of carbolic acid well sprinkled below and around the bed, of children suffering from whooping cough, at night on going to bed, has been found to be very effective in checking the attacks. 10 grs. of carbolic acid dissolved in an ounce of water and of this 10 to 30 mins. hypodermically injected is useful in obstinate malarial intermittent fevers where quinine and other remedies have failed; if patient objects to it, it may be given internally with equal advantage, in doses of 1 to 2 grs. in infusion of gentian and syrup.

Sulphate of soda is found to be useful in the treatment of poisonous effects sometimes caused by the prolonged use of dressing with a 5 p. c. solution of carbolic acid. The dose is 75 to 120 grs. of the sulphate for adults and 30 to 75 grs. for children in 6 ozs. of water. The urine, which in such cases has become deep green tinged with brown, quickly reassumes its normal colour.

The following is the strength of carbolic acid in various preparations and for various uses:—

1. As a gargle 2 grs. to 1 oz. water.
2. For spray 20 grs. to 1 oz. water.
3. For inhalation 15 grs. in a pint of hot water.
4. As an injection for the vagina
or the bladder 1 gr. to 4 oz. water.
5. As an ointment 30 to 60 grs. 1 oz. vaseline.
6. As a dressing on wounds,
scalds, and burns 1 in 20 of water or olive oil.
7. For eruptions attended with
itching 5 grs. to 1 oz. of water.
8. As Lister's dressing for washing
wounds and for injuries and
operations 1 to 40 of water. [water.
9. For hypodermic injection ... $\frac{3}{4}$ gr. of acid in 20 drops of
10. As an injection in gonorrhœa. 1 to 40 or 60 of water.

CARBOLIZED CAMPHOR.

Syn. Camphor Phenique.

Characters and Preparation.—An oily liquid, easily obtained by dissolving 25 parts of powdered camphor in 9 parts of crystallized carbolic acid and 1 part of alcohol. It has a camphoraceous odor and is miscible in all proportions with alcohol, ether and oil of almonds.

Properties.—Mixed with almond or olive oil in the proportion of 1 of camphor phenique to 3 or 9 parts of the oil according to the condition, it is an admirable dressing for surgical wounds and large unhealthy ulcers. Mixed with equal part of oil of almond and applied on diphtheritic membrane every 2 hours, proves very effective. Mixed with equal part of ether and injected into boils, it relieves pain and aborts the boils; i. e. the boils do not advance towards suppuration. Here I may mention that by painting the raw carbolic acid over the boils and buboes to be lanced, the skin over them gets anæsthetic, and the patient does not feel the pain of incision even if it be made half an inch deep; but it cannot supersede cocaine in this respect. Camphor phenique is a powerful and sure remedy for

crysipelas bringing an immediate and complete jugulation of the disease; 2 parts of c. p. with 1 part of olive oil to be applied every 3 hours.

ACID CHROMIC.

Characters and Tests.—Small, crimson, needle-shaped or columnar crystals, deliquescent, odourless, having a caustic effect upon the skin and other animal tissues and acid reaction. Very soluble in water, forming an orange red solution. At a high temperature it melts, and at a still higher temperature decomposes, with the evolution of oxygen gas, leaving a greenish-black residue. Mixed with cold alcohol, aldehyd is evolved, and a green residue remains. On contact, trituration, or warming with strong alcohol, glycerin, spirit of nitrous ether, or other easily oxidizable substances, it is liable to cause sudden combustion or explosion.

Therapeutical action.—Chromic acid has a specific action on the secondary manifestations of syphilis, as ulcers, mucous tubercles, condyloma, and secondary affections of the tonsils and palate. It is best applied by means of a glass rod, great care being taken to protect the adjacent parts by plaster or ointment. Its application is highly useful in mercurial gingivitis; in many cases 2 or 3 applications of a 5 per cent. solution applied to the gums by means of a brush is quite sufficient to produce the required result. In two cases of angina faucium with enormous hypertrophy of the tonsils (syphilitic) chromic acid proved to be the most effectual remedy. Cases of chronic superficial glossitis, due to excessive smoking and drinking often combined with syphilis, are cured by 10 grs. solution in water painted on thrice a day. It has no effect in tertiary syphilis.

In the form of a strong solution it is an useful application on the white patches of gouty psoriasis on the tongue. It is the best application on warty (cauliflower) excrescences on the penis especially. It is a powerful antiseptic, a solution of 1 in 2000 or even 4000 is useful as a wash for putrid sores, cancers &c.

Vide.—Potassii Bichromas.

ACID CHRYSOPHANIC.

Syn. Rhein or Pure Chrysarobin.

Characters.—Is a pale yellow powder, or in yellow needles and plates, inodorous, and almost tasteless. Soluble in benzol, chloroform, and, in 224 of boiling alcohol; nearly insoluble in cold, or in boiling water. It has the disadvantage of staining the skin yellow. It is said to be an oxidised product from chrysarobin, which exists in Araroba powder to the extent of over 80 per cent., and which can be extracted by benzol. *Vide* chrysarobin.

Therapeutical action.—From the result of 319 observations on chrysophanic acid as an emetic and purgative, it has been proved to be an useful addition to our list of remedies, because it affords a means of clearing out the primæ viæ, with a thoroughness and promptitude not equalled by any other remedy known as yet, a combination of tartar emetic and ipecacuanha alone excepted. Chrysophanic acid is at once more certain to produce both vomiting and purging than antimony and ipecac. and is unattended by serious depression. From 5 to 15 grs. in pill or in combination with a strongly alkaline fluid is given to produce these effects.

Observation has repeatedly shown that the local application of this acid to diseased portions of the skin has a tendency to act on more distant parts of the skin, than simply to that point to which it has been applied. This fact leads us to administer the acid internally for its local effects on the skin in cutaneous affections. It was given in 61 cases of various skin diseases out of which 56 were cured; these were 32 cases of eczema, 5 cases of psoriasis, 5 of ecthyma, 4 of prurigo, 3 of acne, 4 of impetigo, 3 of urticaria, 4 of lichen, 1 of pityriasis. It was given in the form of pills in the medium doses of $\frac{1}{4}$ gr. to $\frac{1}{2}$ gr. thrice a day for adults; for children, smaller doses proportionately. In psoriasis the strength of the ointment is 10 to 20 grs. to an ounce of vaseline or lanoline. It is also useful as an ointment for ringworm. Long continued use of chrysophanic acid produces congestion of conjunctivæ.

Doses.— $\frac{1}{4}$ to 1 gr., as an alterative; 5 to 15 grs. as an emetic.

Vide.—Chrysarobin.

ACID HYDROBROMIC DIL.

Characters.—A clear, colorless liquid, odorless, having a strongly acid taste, and an acid reaction. Sp. gr. 1.077. By heat it is completely volatilized.

Preparation.—Bromide of potassium, ozs. 5, drs. 3, grs. 14, dissolved in one pint of water; tartaric acid, ozs. 6, drs. 4, grs. 48½ in one pint of water; mix the two solutions and filter.

Therapeutical action.—It may be substituted for all milder disorders in which the bromides be used, especially those requiring vascular and nervous sedatives. May be used in one drachm does in epilepsy in place of the bromides. Is useful in chorea and alcoholism as an adjuvant to other treatment. When combined with quinine as a solvent, it prevents the unpleasant nervous effects of the latter. Relieves insomnia in typhoid conditions. In combination with quinine, it is excellent in those cases where there is nervous exhaustion from excessive indulgence in tea or alcohol. It is very beneficial in palpitations of the heart connected with general nervous excitability or exhaustion. In all hysterical conditions connected with ovarian excitement, it has all the properties of bromide of potassium. Is equally useful in vomiting of pregnancy, having a powerful influence, over acts of reflex origin like bromides. Is especially useful for the relief of hemorrhage associated with sexual excitement and is even more effective here than the bromides themselves. With spirits of chloroform and syrup of squills it forms an agreeable and palatable cough mixture. Where there is gastric irritability it is most useful of all acids.

It was given in 3 cases of epilepsy in doses of half an ounce of the officinal acid, and was found to be more efficient than the corresponding doses of the potassic or sodic bromide and was less liable to produce bromism; in such cases where large doses have to be given, it should be well diluted with water and syrup and given after meals.

Dose.—15 ms. to 60 ms., or more, for adults, of the dilute acid; of the undiluted, 5 to 15 ms.

ACID HYDROFLUORIC.

Syn. Fluoric acid.—(An aqueous solution of hydrofluoric acid gas containing about 30 per cent. of the gas.)

Characters.—It is at ordinary temperatures a colourless, transparent, mobile liquid, extremely volatile, boiling at 19.40° F. fuming densely at ordinary temperatures, and absorbing water greedily from the air. Owing to its action on the glass, it requires to be kept in leaden or guttapercha bottles. The acid dropped on the skin occasions deep and malignant ulcers.

Properties and uses.—Dilute fluoric acid containing $\frac{1}{2}$ per cent. of the above, is recommended for goitre in doses of 15 to 60 mins. Fluoric acid has also been administered by inhalation for diphtheria and phthisis. Dr. E. Woakes, after using it, for a period of four years, in the treatment of bronchocele, has found it successful in about 87 per cent. of the cases. He employed a half per cent. solution of the *pure redistilled acid*, in which form the drug is capable of being tolerated by the stomach and also of being dispensed and preserved in glass bottles.

Dose.— $\frac{1}{2}$ dr. of $\frac{1}{2}$ per cent. solution to be commenced with and gradually increased to drs. 2, which is the limit of toleration for the drug.

ACID HYDRIODIC.

It is useful where the smallest dose of the iodide of potassium causes iodism. It is indicated in asthma, chronic bronchitis, hay fever, subacute and chronic catarrhal affections, goitre, adipose tumours, syphilis and chronic malarial poisoning. It is best given in the form of syrup of the hydriodic acid.

Dose.—dr. $\frac{1}{2}$ to drs. 2 of the syrup.

ACID LACTIC.

Characters and Tests.—A nearly colourless and syrupy liquid, odorless, having a very acid taste and an acid reaction. It is freely miscible with water, alcohol, ether, but nearly insoluble in chloroform. It is not vaporized by a heat below 320° F.; but at higher

temperatures it emits inflammable vapors, at first burning with a blue flame, then chars, and is finally entirely volatilized, or leaves but a trace of residue. When diluted with water it should not reduce warm test-solution of potassio-cupric tartrate (sugars.) When mixed and heated with excess of hydrated zinc oxide, and extracted with absolute alcohol, the latter should not leave a sweet residue on evaporation (glycerine). Cold concentrated sulphuric acid shaken with an equal volume of lactic acid should assume at most only a pale yellow colour (organic impurities).

Properties and uses.—In the pure state, the acid is employed, as a paint or a paste with kaolin, to destroy lupus; this causes a prolonged pain. In the dilute form, it is used internally in phthisis to allay cough and quench thirst. A 2 per cent. solution of the acid is specific for the green diarrhoea of infants.

Prep.—Acid Lactic Dil. Prepared by mixing 3 fl. oz. of lactic acid with water to a pint.

Dose.—5 to 20 ms. for children; dr. $\frac{1}{2}$ to drs. 2 for adults.

ACID OSMIC AND PEROSMIC.

Vapours given off by osmic acid even at the ordinary temperatures are highly irritating to the eyes, nose and air passages, producing a most violent pain and inflammation of conjunctiva, and may even produce blindness by the deposition of metallic osmium. When brought in contact with the skin, it produces painful eruptions, which can be removed by sulphur baths. The best antidote, against the effect of osmic acid when inhaled, is the inhalation of sulphuretted hydrogen very cautiously.

Osmic acid has been successfully used for peripheral neuralgia hypodermically. It keeps well unchanged for some weeks, if glycerine be added to it. The proportion of acid in solution is 1 of acid to 60 of water and 40 of glycerine. Of this about 15 to 20 drops may be injected for neuralgia of the fifth nerve without any untoward result; so also are, sciatica and muscular neuralgias, successfully treated by subcutaneous injection. An injection of 3 mins. of one per cent. solution is useful for sarcoma, lymphoma, strumous enlarged glands and cancerous glands.

ACID OXYNAPHTHOIC.

Characters.—A white odorless powder, a derivative of naphthol, freely soluble in warm glycerine, ethereal and fatty oils, and alkaline solutions (e. g., soaps). Its antiseptic powers being fully five times that of salicylic acid.

Properties.—Has been tried in venereal ulcers, scabies and other animal parasitic affections and prurigo. In scabies its action is very prompt; in prurigo it lessens itching and heals the excoriations, in the strength of 5 or 10 per cent. ointment.

ACID PICRIC.

Syn. Acid Carbazotic.

Preparation and Character.—May be economically prepared from impure nitrophenisic acid or by distilling phenol with very dilute nitric acid &c. It is also one of the ultimate products of the action of nitric acid upon indigo and numerous other substances, as silk, wool, several resins, salicin, coumarin &c. It forms beautiful pale yellow scaly crystals, but slightly soluble in cold water, and of insupportably bitter taste. It forms a series of crystallizable salts of a yellow or orange colour. The alkaline salts of this acid explode by heat with extraordinary violence. Its ammonium salt occurs in the form of small orange yellow crystals.

Therapeutical action.—The acid when externally employed has the power of acting as a protective varnish and as an astringent to the vessels of the rete Malpighii, rendering the parts, to which it is applied, pale and anæmic and consequently reducing the swelling. Hence it is highly useful in inflammatory affections of the skin. The affected surface is painted from 5 to 10 times a day with a saturated watery solution ($1\frac{1}{2}$ gram. of acid to 250 grms. of water). This method combined with hypodermic injection of quinine is most useful in erysipelas even when the fever is very high and serious; under this treatment the affected part gets pale and swelling gets reduced in 12 or 24 hours. In lymphangitis of the leg and thigh, eczema rubrum, and erythema, it produces beneficial effects by acting as a protective varnish and as an astringent to the vessels of

The rete Malpighii as above said. Various cases of eczema, and especially of eczema impegitinosum, have been very successfully treated with dilute solutions of picric acid. From .3 to .6 per cent. was the strength employed. Internally it is very useful in intermittent malarious fevers and periodic malarial neuralgias in place of quinine; for this purpose the best form is picrate of ammonia.

Dose.— $\frac{1}{2}$ to 2 grs.

AMMON. PICRAS OR CARBAZOTAS.

Picrate of ammonia has been used in ten thousand cases of malarial intermittent fevers with the happiest results and has succeeded in these cases when quinine and arsenic failed. It was given in doses of gr. $\frac{1}{8}$ to $1\frac{1}{2}$ four times a day in pill. In these cases which were treated by $\frac{1}{2}$ gr. doses in the interval of fever, the recurrence of fever was at once prevented, while in 20 per cent. of cases, two or three attacks followed before the fever ceased. It is generally successful in all forms of ague or intermittent fever, but it is a curious fact that the cases, in which it failed to cure, and which were only 9 cases out of 5000, were all of tertian variety. 25 cases of malarial neuralgias of various nerves were also successfully treated. Hence in all varieties of intermittent fevers and malarial neuralgias, picrate of ammonia is a valuable agent and an efficient substitute for quinine. It does not produce any unpleasant effects, like quinine, as headache, nausea, tinnitus, nor does it disturb the stomach or digestion.

Dose.— $\frac{1}{2}$ to $2\frac{1}{2}$ grs. for adults.

ACID PYROGALLIC.

Syn. Pyrogallol.

Characters.—Occurs in white flaky crystals, which blacken by exposure to light. Solubility 1 in 2 of water; 9 in 10 of rectified spirit.

Therapeutical action.—Like gallic acid it is useful internally for hæmoptysis, but smaller doses of $\frac{1}{2}$ to $1\frac{1}{2}$ grs. in solution or pills, are sufficient. A 10 or 20 per cent. ointment or better still a 10

or 20 per cent. solution with collodion is useful in chronic eczema and psoriasis. A 20 p. c. ointment applied to the epitheliomatous ulcer, will upon several applications, with active rubbing, destroy the new cell growth, while the healthy granulations will remain unaffected. It is serviceable in lupus also. A solution of 2 per cent. in water acts as an antiseptic. Mixed with 3 parts of vaseline or starch is useful for phagædenic chancres and serpiginous sores. A 10 p. c. salve is very beneficial for leprous tubercles of the extremities. Its solution in water (1 to 16) with a solution of nitrate of silver (1 to 30), is used for blackening the hairs. The internal use of dilute nitro-hydrochloric acid is suggested to obviate the toxic effect of its external application.

Dose.— $\frac{1}{2}$ to $1\frac{1}{2}$ grs.

ACID SALICYLIC AND ITS COMBINATIONS; SALICYLATES; SALICINE.

Characters and Tests.—Salicylic acid, prepared by passing carbonic acid into a mixture of carbolic acid and caustic soda at a high temperature, and decomposing the salicylate of soda with an acid, or by treating oil of wintergreen or sweet birch, with a solution of caustic potash &c., occurs in fine, white, light, prismatic, needle-shaped crystals, permanent in the air, free from odour of carbolic acid, of a sweetish, and slightly acrid taste and an acid reaction. Soluble in 450 parts of water and in 2.5 parts of alcohol at 59° F.; in 14 parts of boiling water; very soluble in boiling alcohol; also soluble in 2 parts of ether, in 2 parts of absolute alcohol, in 3.5 parts of amyl alcohol, and in 80 parts of chloroform. When heated to about 347° F. the crystals melt and at about 392° F. they begin to sublime; at a higher temperature they are volatilized and decomposed with odor of carbolic acid. The aqueous solution is coloured intensely violet-red by solution of ferric chloride.

Physiological action.—It has a paralysing action upon the vasomotor nervous system, thereby causing a dilatation of the arterioles. The tinnitus aurium produced by it is owing to the intense irritative congestion of the internal and middle ears. The symptoms of an overdose of salicylates are fulness of the head, buzzing in the ears,

diarrhoea, vomiting and weakness. It also produces great congestion of the uterus; among other injurious effects produced by the members of the salicylic group, is mydriasis noticed in association with amblyopia and temporary impotence. That artificial salicylic acid and its sodium salt are dangerous and in large doses fatal to animals; while salicine, natural salicylic acid and its salt are not so; the cause of this is that the artificial acid contains an impurity or impurities, to be yet discovered. It is important to bear in mind the above said physiological action of the salicylic acid, in order to better understand its various contraindications and injurious effects in certain diseases to be described hereafter. The peculiar long drawn sighing respiration invariably observed in the course of treatment by salicylic acid, should also be not forgotten, when its further administration should be stopped.

Therapeutical Properties.—Internally in the form of salicylate of soda, it is useful in fevers for reducing temperature and for relieving the pains of acute and subacute rheumatism. Equally serviceable for reducing temperature in typhoid fever, giving alcohol in fair doses with each dose of the salicylate if the heart's action be weak. S - It is useful in phlegmacia alba dolens. Cases of gonorrhœal epididymitis have been rapidly relieved by its internal use; it is successful only in acute cases and should be given in doses of 20 grs. repeated every hour for the first three doses, after which the interval may be lengthened. In doses of dr. 1 to dr. $1\frac{1}{2}$ per day it produces marked relief only in some cases of dysmenorrhœa. It is useful for the relief of painful neuritis whether specific or rheumatic in nature; it will remove pain and congestions of the eye tissues more rapidly than any other remedy tried; a dose of 25 to 30 grs. acting magically. Patients, who could not sleep on account of pain in the eyes, notwithstanding local leeching, atropine drops, and iodides internally, with mercury and opium, have been relieved completely before half a dozen doses of sodium salicylate have been taken.

Externally salicylic acid in powder is useful in osteo-myelitis, ulcers, granulating surface, and such other places demanding an unfrequent change of dressing and is further useful as an application to the entire vagina after extirpation of the vaginal portion of the

uterus in carcinoma. Its application is analogous to the powder of iodoform, but is preferred to iodoform being odourless and cheap. A plug of cotton dipped into a concentrated solution of salicylic acid and introduced into the vagina as far as the os, at once checks metrorrhagia. (This styptic effect of the acid thus used, has been recently witnessed by me in three cases, after failure of astringent injections and other means). However care must be exercised in the employment of both the iodoform and salicylic acid, as intoxication is apt to occur from the too use of it in children and old people. It is highly efficacious in soft chancres, buboes, being odourless, slightly painful in its application, soluble in alcohol and glycerine and leaves no stain on linen. It is also beneficial in eczema, psoriasis, ringworm and foul ulcers; here its action is similar nearly to chrysophanic acid; the strength of the ointment being grs. 30 to an ounce of vaseline. With creasote it forms a good application for leprous eruptions on the face. Its solution on lint applied to the joints in acute rheumatism, gives great and speedy relief to swollen and tender joints after other local applications have failed.

On heating a mixture of 65 parts of salicylic acid and 85 of camphor, a clear viscid fluid results, which is soluble in water, glycerine, fixed and volatile oils; this fluid is effective in lupus and is preservative against mould or fungous growth in medicated solutions.

Clinical Observations and contraindications.—That the administration of salicylate of soda in certain diseases or conditions of the system, produces menorrhagia or prolongations of the menstrual periods; also produces hemorrhages elsewhere as hæmaturia, epistaxis &c. Hence in cases having such hemorrhagic diathesis or tendency and also in cases of pregnancy particularly if there is a tendency to abortion, it is safer either to dispense with its use or observe great caution in its employment. These deleterious effects of salicylate of sodium have been recently further confirmed by Dr. M. Wacker who had administered it to women either for its anti-rheumatic or antithermic effects, or in metrorrhagia or for dysmenorrhœa. It was given to two pregnant women, one in the second

and the other in the fourth month of pregnancy, in each of whom the daily administration of 45 grs. produced abortion; in six lying-in women its administration occasioned metrorrhagia and increased very greatly the flow of blood then existing; and in fact, in one case led to the production of fatal hemorrhage occurring on the fifth day after delivery. In five other cases it was given immediately or a little after the menstrual period to calm dysmenorrhœa, produced return of the menses without relieving the suffering. Nevertheless in 19 cases out of 33 cases of dysmenorrhœa, a favourable result was obtained through the administration of salicylate. The abortive action of salicylate of sodium appears to be incontestable and these injurious effects are attributable to the great congestion of the uterus which it occasions. Further it has been found from observations that salicylate of soda has a paralysing action on the vasomotor nervous system, thereby causing dilatation of the arterioles. On this theory could be explained all these above symptoms or evil effects produced by the salicylates when given during or near the menstrual period; and by way of experiment, minute doses of ergot were given in such cases with happiest results. Salicylic acid is also contraindicated in acute nephritis as the economy retains it considerably longer than when kidneys are normal and the flow of urine is diminished; it is also contraindicated in persistent lung complication.

Dose.—Acid Salicylic 5 to 30 grs.

Sodæ Salicylas 10 to 30 grs. or more.

SALICYLATE OF AMMONIA.

It is obtained by mixing together 2 parts of ammonia and 1 part of salicylic acid and is especially indicated in acute catarrhal and inflammatory affections of infants and adults as capillary bronchitis, membranous croup and pneumonia.

Dose.— $\frac{1}{2}$ to 1 gr. for infants; 15 grs. for adult.

SALICINE.

As regards the new therapeutical properties of salicine, it may be said that it has been employed with beneficial effects in various

affections of the skin, such as tinea, eczema &c. The method adopted is to give it in 5 to 8 grs. doses internally once or twice daily and at the same time to apply a salicine-lanoline ointment locally. That the so called new principle "*Darutine*" extracted from the *Siegesbeckia Orientalis*, has been proved to be neither more nor less than ordinary salicine, indistinguishable from that derived from willow-bark.

ACID SULPHOLENIC.

Syn. Polysolve ; solvine.

Characters &c.—An yellowish oily liquid, soluble in 2 parts of water, but thrown out of the solution on the addition of more water. Its property of dissolving such substances as iodoform, chrysarobin &c., recommends it as a basis for liniments, ointments &c.

THE SOLVINE PREPARATIONS.

Solvine preparations are the products, combined with alkalies, of the action of concentrated sulphuric acid on the various triglycerides of the fatty acids. Kiwull has experimented in the Dorpat Institute of Pharmacology with the Müller Jacobs castor-oil solvine and the castor-oil, rape-seed-oil, and oleic-acid solvines of Kirschmann. Red blood-corpuscles were dissolved by the various solvine preparations with different degrees of rapidity, as they are by soaps of every kind. Large quantities prevented and small quantities delayed the coagulation of the blood. Kiwull draws the conclusions from his experiments that the internal administration of solvine preparations to human beings, in large doses, as recommended by Americans, is not advisable; and that their use in the form of ointments in dermatological practice is equally unallowable, because of their irritative action upon the subcutaneous tissues. He classes them among those substances which produce inflammation without bacteria. Tape-worms and ascarides are killed and dissolved by them, but the solvines cannot be recommended as anthelmintics, because of their injurious effects upon the host.

ACONITUM FEROX.

Syn. Indian Aconite. Vachanága (Guj.). Bachanága (Hind).

Part used.—The Root.

N. O. Ranunculaceæ.

Habitat.—Northern parts of India, as Himalaya mountains,
Cashmere &c.

Characters.—The root occurs as a heavy, horny, wrinkled tuber of a fusiform or conical shape, of a dark brown colour externally, and shining black within, and from one to three inches in length; the smell is very disagreeable like cat's urine. The taste is acrid and stimulating and when chewed in a least degree, causes a tingling sensation and numbness on the tongue for a long time. It contains the largest amount of *aconitia* of any known species.

Therapeutical Properties.—Indian aconite possesses a well marked aphrodisiac properties and is more anodyne than the *aconitum napellus*. Minimum doses of its tincture act as an excellent antiphlogistic, and have beneficial action in catarrh of children, tonsillitis, acute sore throat, pharyngitis, bronchitis, coryza, rheumatism, and gout, very similar to that of *A. Napellus*.

Dose.—1 to 2 grs. of the root for an adult.

(b) *The Alkaloid Aconitine or Aconitia.*

Characters.—A white uncrystallizable solid, soluble in 150 parts of cold, and 50 parts of hot water, and much more soluble in alcohol and ether. It melts with heat; causes tingling, followed by numbness, when rubbed on the skin. It is a very active poison; entirely soluble in pure ether $\frac{1}{100}$ gr. of *aconitia* is equivalent to about 1 gr. of aconite root.

Physiological action.—It is a powerful and rapid modifier of the nervous system. Its predominant effect is concentrated at the base of the brain, consequently its influence extends over the entire system over the great sympathetic and the vast domain dependant upon the latter, enclosing the principal vital functions. Besides it

powerfully affects the sensitive nerves, reduces or suppresses their energy and causes anæsthesia. At the same time calms the circulation, diminishes the calibre of the capillaries and diminishes the temperature. It is a local sedative, paralysing the terminal cutaneous nerves, lessening excitability of nerves or nerve centres, diminishes rapidity and depth of respiratory centres.

Therapeutical action.—The above physiological properties render aconitia useful in all forms of congestive neuralgias and dermodynia (dermalgia) which have their seats in the extremities of the parts where the corpuscles of Pacini are abundant. In affections of the trigeminus the effects of aconitine are marvellous. In tic-douloureux it has proved the only self relieving remedy; the same may be said of the irritative and painful affections of the respiratory tract, as in asthma and convulsive cough; also of nervous palpitations, angina pectoris, and in the painful acute forms of rheumatism and gout, where it calms both the nervous and vascular erythism. As certain patients are particularly susceptible to its action, minute and largely diluted doses of its solution have to be begun with. It is useful for itching or pain whether due to neuralgia or inflammation and to allay spasm, to control cardiac excitement in excessive hypertrophy with sound valves. It sometimes gives relief to headache, toothache, noises in the ears, intercostal neuralgia and neuralgia of Herpes Zoster. Also useful for fibrous and catarrhal neuralgia.

Toxicology.—Aconitin is antagonistic to atropine, digitaline, strychnine, ammonia and warmth. See also "*poisons and their antidotes*" Part II.

Dose.— $1/260$ to $1/60$ gr.; may be increased to $1/24$ gr.

Inj. Aconitinæ. Hypo.—(1 gr. in $\frac{1}{2}$ oz.)

Dose.—1 to 4 mins.

ACTÆA RACEMOSA.

Syn. Cimicifuga Racemosa; Black cohosh; Black snake root; Squaw root &c.

Part used.—The rhizome and rootlets.

N. O. Ranunculaceæ.

Habitat.—United States.

Characters and Tests.—The rhizome is from 2 to 6 inches long, and from half an inch to an inch thick, hard, somewhat flattened-cylindrical in form, having on its upper surface the remains of several aerial stems, and below numerous small wiry brittle branched rootlets; both rhizome and rootlets are brownish black, almost odourless, and of a bitter slightly acrid taste. An infusion is blackened by a persalt of iron.

Physiological action.—It acts upon the heart very like digitalis. Its action on the nervous system is decided, causing vertigo, dilated pupils and sometimes considerable soporific and anodyne effects. It appears to increase contractility of unstriated muscular fibre, in a manner that resembles ergot, but less energetically. In full doses it increases gastro-intestinal secretions (Bartholow). It has a positive antispasmodic effect upon the parturient woman, quieting reflex irritability; nausea, pruritus and insomnia so common in the last six weeks of pregnancy, are rendered less distressing and often disappear under its administration; the neuralgic cramps and irregular pains of the first stage of labour are ameliorated and altogether abolished. It increases the energy and rhythm of the pains in the first stage of labour and like ergot maintains a better contraction of the uterus after labour. These conclusions have been maintained by some physicians and not by all. However it does possess to some extent antispasmodic powers over the uterine muscular fibres, controlling their irritability &c.

Therapeutical Properties.—It possesses alterative, antispasmodic, diaphoretic, resolvent, nervine, emmenagogue, parturient, tonic, narcotic (somewhat) and metastatic properties. Hence indicated in chorea, hysteria, convulsions, epilepsy, leucorrhœa, prolapsus uteri, spermatorrhœa, colds, croup, small pox, scarlatina &c.

It has been largely used for the cure of acute rheumatism, lumbago, sciatica, rheumatoid arthritis, where the joints are enlarged and much stiffened and where the pains are worse at night. It is of special service when the disease is traceable to some previous derangement of the uterus, as sudden suppression of menses, a miscarriage, a painful and difficult confinement or to the disappearance of catamenia at the menstrual term. Painful cramps of legs some-

times torment such patients and in such cases, actæa gives considerable relief from pain and cramp and renders quiet and refreshing sleep independent of its narcotic action. It is indicated in amenorrhœa dysmenorrhœa and menorrhagia. When the menses are suddenly checked by cold, shock or mental emotion or when the lochia is suppressed, causing pains in the head, back, down the back, stiff sore muscles and bearing down pains, actæa will restore the secretion and remove the accompanying symptoms. It is highly useful for women who during pregnancy and after confinement suffer from mental disturbance and cerebral mischief. It possesses great power over the exanthematous fevers, transfers to the skin eruptive diseases, which have receded from the skin to the mucous membranes.

Preparations and doses.—Fl. Ext. 10 to 30 mins.

Tr. 15 to 60 mins.

Solid Ext. 3 to 10 grs.

Cimicifugin or Macrotin (concentration) 1 to 6 grs.

ADONIS VERNALIS.

Syn.—False hellebore. *Part employed.*—Leaves and stalks.

N. O. Ranunculaceæ. *Habitat.*—Southern Europe.

Chemical composition.—The commercial variety has lately been studied by Podwissotsky. Besides adonidin itself, which is said to act but feebly, this enquirer found an extremely bitter amorphous glucoside, soluble in alcohol, ether and water, and a most potent cardiac poison, which he considers to be the real active principle of the *Adonis vernalis*; adonidoquercitrin, which is orange-coloured; adonidic acid; a brownish glucoside, which is amorphous and quite inert, and a sugar, adonidodulcite, crystallizing in fine translucent prisms. It would appear, therefore, that for medical purposes not “adonidin,” but “picroadonidin” should be employed exclusively.

Physiological action.—It increases the arterial tension, regulates the beats of the heart, diminishes the frequency of the pulse, increases the force of the cardiac contractions and increases diuresis. (Prof. Botkin).

Therapeutical properties.—In its medicinal activity, it seems to be identical with *digitalis*, but it is not cumulative in its action, so that it can be given for a considerable time without danger; it acts with rapidity and is besides well borne by the patients. It has been employed in Russian practice as a popular remedy for diseases of the heart and dropsy. It is very useful in cases of mitral regurgitation, irregularity, and want of rhythm of heart beats, is of more use in dilated than hypertrophied heart. It renders the pulse distinctly slower. Dr. Bubnow, who has made experiments with it, believes that *adonis vernalis* is positively preferable to *digitalis* in organic heart disease.

Preparations and doses.—Adonidin, $\frac{1}{4}$ to $\frac{1}{2}$ gr. daily.

Leaves and stalks in powder, 3 to 6
grs.

M. Ext., 2 to 10 mins.

Inf. (1 to 7), $\frac{1}{2}$ to 1 foz.

Tr. 10 to 30 mins.

ÆTHER.

Syn.—*Ether Sulphuric.*

Practical uses.—1. A local anodyne and an hypnotic. Most useful in cerebral excitement and wakefulness accompanied by depression of arterial circulation.

Æther by spray.—Æther applied on irreducible, hernial tumour by means of a spray, or by putting a piece of lint dipped into ether, and frequently changing it, as it evaporates and fades away, facilitates the reduction of hernia which cannot be reduced by ordinary taxis. In the case of incarcerated scrotal hernia, it is advisable to irrigate with a mixture of ether 20 parts and hyoscyamus oil 4 parts. When applied sufficiently early it gives most brilliant results. In the case of a woman with an incarcerated umbilical hernia, in whom, after all ordinary procedures for reduction had failed, irrigation with a small jet of ether was resorted to, taxis being continued at the same time. In 3 or 4 minutes the reduction, was effected with striking ease. The action of local

etherization is attributable to a rapid contraction of the intestinal wall, and to the diminution in volume of the hernial gaseous contents caused by the sudden lowering of the temperature. Simply pouring a teaspoonful of ether over the hernial tumour every quarter or half hour, keeping it covered with compresses during the intervals, will suffice. As a rule after 3 or 4 tablespoonfuls, the intestinal loop slips down into abdominal cavity by itself; however slight pressure should be applied in some cases of irreducible or strangulated hernias. In order to hasten the anæsthetic effect of ether spray, make a slight prick with a needle at the point upon which the spray is directed at the moment when the skin assumes a purplish hue and when the ether begins to solidify and assumes the oily consistence. Another method of hastening the process consists in placing little wads of lint about the part, thus increasing the surface evaporation.

3. *Æther subcutaneously*.—Æther subcutaneously injected has a powerful stimulant effect and efficacy in extreme depression of powers of life. In adænamic pneumonia, in fevers when failure of vital powers is threatened, in the puerperal state and in thrombosis of large vessels it has been used with similar benefit. As a restorative, hypodermic injection of ether in cholera cases has a most marvellous and speedy effect in stimulating and reviving patients who are suffering from syncope or who are in a state of collapse due to shock, accident &c. One drachm may be safely injected and repeated at very short intervals if necessary in cases of adults only. In adynamic pneumonia it may be injected 3 or 4 times a day. In the more chronic cases of superficial neuralgia, sciatica, lumbago, intercostal pain, Zoster &c., ether injected near the affected part or nerves gives suprising relief.

4. *Æther by inhalation*.—As an inhalation through Richardson's spray, it was effective in six cases of sore throat or angina faucium; it was sprayed against the pharynx for three minutes and repeated every three hours; all the symptoms of fever, swelling of the submaxillary glands and tonsils, and dysphagia as existing in these six cases, were soon relieved. Inhalation of ether is specific as an expectorant in subacute and chronic bronchitis. The mode

of inhalation is as follows:—The cork of a bottle half filled with ether is perforated with two glass tubes either being immersed into ether; a few inspirations through the tube every hour or two is sufficient; it has frequently been used for bronchitis in this way with benefit.

Further the inhalation of æther is useful in non-expansion of the lungs, due to adhesion of pleural surfaces occurring after pleurisy with purulent effusion, in asphyxia neonatorum and apneumatosi of children. After absorption or artificial evacuation, we frequently find that a long continued effusion into the pleural sac is followed by destructive changes in the corresponding lung; here inhalation of ether is the best remedy. Inhalation should not be pushed to complete narcosis but to be discontinued after excitement has been reached. Inhalation of ether is successful, after artificial respiration fails, in asphyxia of new born infants; after nares have been cleaned of mucus, insinuate into either nostril a camel hair brush previously dipped into ether.

5. *Ether narcosis*.—Another method of producing ether narcosis, besides the ordinary one, is to put one end of a tube in a bottle of ether, then to place the bottle in warm water, and the other end of the tube is to be put into rectum and in about 2 or 3 minutes the patient feels the taste of ether in his mouth and gradually falls into sleep when slight operations of very short time may be performed.

6. *Contraindications*.—Ether is contraindicated in cases of cardiac depression due to chloroform or ether narcosis and in cases where there is arterial excitement with power.

Dose.—Usual dose for injection is 15 mns.; but larger doses upto 60 mns. can be injected in urgent cases as sudden puerperal hemorrhage, grave accidents, &c. When sudden extreme depression of heart is to be overcome 10 or 20 mns. injected every 5 minutes until some result is obtainable.

AGARICUS ALBUS.

Syn. Polyporus Officinalis, Larch or White Agaric.

Part used.—Parenchymatous cellular plant.

N. O.—Fungi.—The Mushroom Order.

Habitat.—South of Europe and of Siberia.

Characters.—It is a parenchymatous cellular plant growing on the stems of *Larix Siberica*, and producing its fructification in the air. It grows horizontally and is porous underneath. It is characterized by a pileus or cap, which is white or ash coloured, almost flat, and being distinct from the stalk, and having on its under side numerous flakes or gills radiating from the centre. Juice often milky, odour powerful and disagreeable, with an acrid, astringent and saltish taste; when cut and exposed to the air acquires a brown tint.

Chemical composition.—It contains an uncombined acid; water dissolves a small quantity of extractive matter, as well as sulphates of potash and lime, some muriate of potash and an animal matter. When distilled in close vessels, acetate and carbonate of ammonia are formed. When burnt, the ash contains carbonates of potash and of lime, muriate of potash, phosphate of lime, sulphate of lime and some iron.

Therapeutical action.—In small doses it acts as an astringent, and in large doses it is emetic and purgative. Its active principle, agaricin, is a new and powerful anthidrotic, checking the night sweats of phthisis remarkably. It often acts very promptly and its action continues for a few days and seldom causes disturbance of digestion and nervous system. It is scarcely an everfailing remedy for the suppression of excessive sweating in phthisis; while the cutaneous and pulmonary discharges remain essentially unaltered. In physiological state it sustains perspiration at a certain constant level; the urinary organs discharging the surplus of liquids and the diminished thirst lessening ingestion of liquids, the hydrostatic equilibrium being thus reestablished. Moderate perspirations yield to a single dose of $\frac{1}{6}$ gr. of agaricin, while profuse perspirations require repeated equal or increasing doses for its suppression. The physiological action of the drug manifests itself, 5 hours after its administration. In order to check its laxative action, it is best administered in combination with Dover's powder. It hastens the drying up of the milk in weaning.

Preparations and doses.—Agaricus powder 2 to 3 grs.

Agaricin $\frac{1}{12}$ to $\frac{1}{6}$ to 1 gr.

Fl. Ext. (1 in 3) 3 to 20 ms. or upwards.

AILANTHUS GLANDULOSA.

Syn.—*Tree of Heaven, Chinese Sumach, Götterbaum* (Ger.).

Part employed.—*The bark.*

N. O.—*Simarubaceæ.*

Habitat.—*China. Cultivated in the United States.*

Characters.—The bark has a pleasant aromatic odour, with a bitter taste and an ashy colour. Externally it is thick and rough, of a pale yellow colour internally and fibrous in texture.

Physiological action.—It is a muscular sedative, exercising a depressing influence over the nervous system similar to that of tobacco.

Therapeutical action.—*Ailanthus* is cathartic, anthelmintic, and its volatile oil when inhaled is a powerful antispasmodic and nauseant. Dr. True recommends it as reliable and effectual in palpitations, obstinate hiccough, spasmodic asthma, twitching of the muscles and epilepsy. The Chinese use it as a remedy in dysentery, and in Europe it has been used to advantage as an anthelmintic, especially for tapeworm.

Preparations and doses.—Bark 5 to 30 grs.

Fl. Ext. 10 to 30 ms.

AJOWAN (PTYCHOTIS AJOWAN).

Syn.—*Curum Ajowan; Bishop's weed, (Eng.); ajwan (Hind.) owa, ajwan, (Bom.); Ajamo (Guj.); O'mam (Tam.)*

Part employed.—*The fruit.*

N. O. *Umbelliferæ.*

Habitat.—*Southern Asia, Africa.*

Properties and uses.—Ajowan contains much thymol, to which it probably owes its medicinal properties. It is the most powerful of all the umbelliferæ carminative seeds, they are regarded as combining the stimulant quality of capsicum or mustard, with the bitter property of chiretta, and the antispasmodic virtues of assafoetida. Its stereoptene sold in the bazar, under the Hindoostani name of "ajwan-ka-pheul," is identical with our English "Thymol," whose

claim as an antiseptic and germicide has of late attached much importance, the fruits are the source of this thymol. The antiseptic properties of thymol, conjoined with its powerful diffusible stimulant action, indicate the probability of its proving of greatest service in cholera, in which, it is alleged, even in empirical practice it has done wonders. On account of its bitter or pungent, yet pleasant taste and the sensation of warmth it creates in the stomach it has been constantly recommended of late years to those affected with dipsomania (Dr. Waring). It may be safely given either alone or combined with other antispasmodics as camphor &c., for diarrhoea, flatulent colic, spasms in the stomach or bowels, indigestion, asthma, and dysmenorrhœa. Applied externally, as a constituent of poultices, it relieves pain, and is an useful stimulant embrocation in rheumatism.

Doses.—Fruits 10 to 40 grs.

Stereoptene (thymol) $\frac{1}{2}$ to 2 grs.

ALCOHOL.

Leaving aside its physiological action, which is superfluous to mention, I beg to speak on alcohol chiefly in its medical aspect and have treated it under three different headings viz :—

I. Uses of alcohol in different diseases of infants, children and adults.

II. The utility and the mode of action of alcohol in continued fevers.

III. Contraindications and the evil effects of alcohol in some diseases &c.

Its internal administration in infants and children :—

1. An infant is born in a state of excessive debility has no strength to live ; either it has not arrived at full term or labour has been long and difficult so that the child comes into world apparently dead ; by artificial respirations signs of life are evoked but the infant remains so feeble that it is incapable of sucking and the absence of all nutrition will soon overcome the already precarious vitality. In such a case a tea spoonful of a mixture of Malaga wine

drs. 4 in half a glassful of lukewarm water every quarter of an hour may be given with benefit. Instead of wine, brandy may be used with similar effects but in a less amount. At the same time put the child in a bath of wine or if there be any objection to bath which is also very expensive it may be rubbed on the whole body.

2. Or again we will meet with cases in children naturally feeble, who after a restless night become pale, without strength and unable to nurse. In such cases administer alcohol as above.

3. Alcohol should be administered preferably to every other form of medication in capillary bronchitis, bronchopneumonia and pneumonia. In such cases we can very well avoid administering all medicaments which act as depressants such as antimony, aconite, senega &c., and give instead alcohol which with repeated blisters or counterirritations to the chest is the best treatment in the said cases. The most convenient preparations to use are brandy drs. 2 to drs. 4, or Malaga wine oz. 1 or more, per day—to be administered in small doses—frequently repeated and much diluted to avoid irritating the stomach. Under its influence the temperature falls, respiration becomes less frequent, pulse slow, and there is less tendency to delirium and skin is rendered moist. As regards other affections of the respiratory organs such as laryngitis, bronchitis of the larger tubes or in generalized bronchitis, alcohol is not proper in their treatment, it is rather contraindicated; in such cases emetics, nervines like aconite and belladonna and revulsive applications are useful. In chronic diseases of the respiratory organs, chronic bronchitis, bronchial adenopathy and chronic phthisis alcohol may be serviceable but special precautions are necessary as the treatment must be of long duration; therefore it should be allowed from time to time and not constantly, remembering that it is but an accessory part of the treatment. The real foundation of treatment being the exhibition of mineral waters containing sulphur, arsenic, phosphate of lime, and revulsive applications over the chest. In emphysema and asthma alcohol may also be useful as an adjuvant to treatment by iodide of potassium, sulphurous waters and arsenical preparations. Among acute throat affections alcohol is used only in diphtheria with great benefit both internally and

topically, the supreme indication being to raise and sustain vital forces. Alcohol in the form of red astringent wines combined with quinine as tannate of quinine is an energetic preparation sufficient for combating certain phenomena of colliquation among phthisical patients of the 2nd and 3rd degree viz. the expectoration of mucopurulent softened caseiform matters—exhausting perspirations and colliquative diarrhœa &c.

4. In certain forms of dyspepsia in children known as atonic dyspepsia alcohol gives excellent results. Here Malaga wine with cinchona may be given before meals properly diluted. But in that form of dyspepsia and digestive troubles depending on or consecutive to hepatic congestion, presenting a vague yellow tint of the skin and sclerotic, more or less enlargement of the liver with constipation, alcohol is injurious and should not be administered—because it will aggravate these symptoms. Here alkaline mineral waters are best indicated. In cases of diarrhœa if there be great prostration or the diarrhœa be at all choleraic—alcohol is imperatively required and is best combined with opium. It is also useful in chronic diarrhœa.

5. Among the affections of the heart, alcohol should be given to children with malformations of the heart inducing cyanosis, for the purpose of increasing the strength of the cardiac muscles. It is likewise indicated in asystole and in all cases where there is tendency to syncope, where there is slowness of the pulse or atony of the capillary circulation in the skin or lungs.

6. In generalized chronic diseases such as anæmia, chlorosis, scrofula and rickets alcoholic preparations may be utilized with benefit.

There are two sorts of anæmia (*a*) traumatic anæmia due to abundant and prolonged hæmorrhage such as (epistaxis, hæmorrhage from the umbilical cord, surgical operations and uterine hæmorrhages) and (*b*) chronic anæmia which becomes slowly established through bad hygienic conditions or organic alteration. (*c*) In a third and exceptional class of cases, there is a congenital disposition to hæmorrhage where obstinate bleeding occurs on slightest causes. Here perchloride of iron and preparations containing

alcohol are indicated. In chlorosis also give ferruginous preparations and alcohol. Alcohol is also indicated in scurvy, purpura and spontaneous hæmorrhage, all affections indicating a low state of vitality.

It is also useful in scrofulous and cancerous affections, in cases of slow blood poisoning, chronic lead poisoning, marsh fever, leucorrhœal discharges and chronic albuminuria. Alcohol in the form of wine is useful in all atonic forms of gout. Of course it is objectionable in acute gout but in chronic and irregular forms of gout alcohol is not objectionable but on condition that we judiciously choose the proper quality and give it in moderate quantity sufficient to animate the energies but not sufficient to disturb the nutrition and nervous system; in these forms of gout there is also dyspepsia in all its varieties and hence the indication for alcohol.

Finally alcohol is used as frictions over joints after sprains; on limbs in an anæsthetic state or when benumbed, also over the entire body as a sort of massage. As a dressing for wounds and ulcers, and is injected into cysts and cold abscesses. Its antiseptic properties render it of great service in gangrenous affections, in ulcers, membranous stomatitis and diphtheria. For topical application we may use diluted alcohol, wine or aromatic wine.

Now a few words about its mode of action and utility in continued fevers will not be out of place. As to the utility of alcohol as an antipyretic in typhoid fever and in cases of high temperature from any cause there can be no question. At the same time its action in fever is explained not only by its antipyretic effect but also by its supplying something a "food" out of which force is eliminated for the vital functions.

In typhoid and other fevers a patient will take large quantities of alcohol (even a quart of brandy in 24 hrs.) without any of the usual symptoms of alcoholism, any of the cerebro—spinal effects or even any other, upon the health. Also the patient is not only not rendered delirious but the delirium is quieted by alcohol. This action of alcohol is of specific value not only in typhoid but in all fevers and at all ages. Even infants are able to tolerate doses in fever which otherwise would set them wild.

It is required when the patient exhibits great nervous prostration with subsultus, delirium at night, jactitation, great physical debility and a very dry tongue, all coming on with the increase of temperature. If all these symptoms increase under alcohol, then it is doing harm and should be stopped; brandy or whisky is preferable to fermented preparations in these fevers and is best taken with food and given with milk it is rendered diluted and bland. It should be given until the desired effect is obtained. The amount usually varies from 4 ozs. to 24 ozs. during 24 hours. But in the majority of cases it will be necessary to give the largest amount in the 12 hours from 6 p.m. to 6 a.m. the period during which the vital powers reach their lowest as exhibited by the respiration, pulse and temperature. Therefore the greatest failure in these hours needs the greatest amount of stimulation.

Now I pass briefly on the evil effects of alcohol and its contraindications in certain diseases :—

It is universally acknowledged that the influence of alcoholic liquors upon the system in hot countries is highly injurious. The intemperate or excessive use of brandy, rum, absinth &c., largely contributes to the development of liver complaints and of the severe bilious fevers. It has also the pernicious influence to the organs of nutrition while taken in excess, as well as its specific influence on the nervous system must always be kept in mind. That the use of fermented liquors is the most powerful of all the predisposing causes of gout. Distilled spirits appear to exert little or no power in inducing gout, whereas strong wines, strong ales, and porter are potent agents; because porter is a very nutritive liquor and when taken with spirits and even with a moderate quantity of solid aliment, may be regarded as very likely to produce inflammatory plethora which leads to gout. The reason that strong beers containing an equal dose of alcohol are more injurious than wine, is because the salts found in beer are almost entirely composed of phosphates whilst in light wines they consist chiefly of bitartrate of potash, the action of which is beneficial.

Alcohol is contraindicated in acute articular rheumatism, because though the pain may be calmed by it, it is replaced by

cerebral rheumatism and the patient dies. Of the valuable effects of alcohol in certain affections of the hearts I have just said but amongst them the acute endocarditis or pericarditis are the exceptions in which it is contraindicated. Alcohol is contraindicated in all nervous diseases, nervous irritation, cerebral sclerosis, meningitis, epilepsy, eclampsia, chorea, and incipient hysteria. It should equally be prohibited in all acute skin diseases without exceptions and in a certain number of chronic affections such as eczema, psoriasis, pityriasis, prurigo, urticaria, ecthyma and furunculosis. Alcohol is objectionable in acute rheumatism as already said but even in chronic rheumatism it is of no advantage on account of its diminishing urinary secretion and even alcohol is objectionable to children who have presented any signs of rheumatism, if the parents have any rheumatic or gouty tendency. It is further contraindicated in acute hepatitis, in patients subject to frequent attacks of biliary or hepatic colic, diabetes and certain forms of chronic Bright's disease which I am just going to speak in detail. In chronic parenchymatous nephritis (large kidney without waxy degeneration) alcohol in any form increases the work of the kidney, augments the quantity of urea in the blood and promotes increased excretion of albumen. Claret and the light French or German wines are perhaps the least objectionable. Gin or whisky much diluted are occasionally of value as diuretics, though even a small quantity of certain wines as Madeira or champagne will increase the quantity of albumen excreted. That excess in taking alcohol is a frequent cause of albuminuria, it is clinically proved that alcoholic stimulants produce greater and more pernicious effects when there are considerable renal changes than would result from an equal quantity given when kidneys are in a normal state. Despite all these objections conditions may arise when alcoholic stimulants are imperatively called for. Such instances are those which occur whenever great exhaustion is present as by blood losses from albuminuria and in instances of profound anæmia of the brain which condition is often the accompaniment of threatened uræmic symptoms which are aborted by the use of alcoholic stimulants which send more blood to the brain and strengthens the heart temporarily.

Brandy and whisky are the most reliable in such cases. Alcoholic stimulants should also be avoided as far as possible in the small granular kidney or interstitial nephritis. In lardaceous disease small quantity of good wine may be allowed. Finally alcohol is according to my experience inimical to patients who had once suffered from gonorrhœa; because I have observed in at least 4 or 5 of my patients that the use of alcohol of even weakest strength taken once has brought back the original disease which had been dormant for months together.

Thus keeping in view the dangers that result from an excessive consumption of strong liquors, consisting solely of alcohol and containing but a feeble proportion of substances, it must be conceded that even in a hot climate a very moderate use of certain wines may be very beneficial.

In regard to the best mode of administering alcohol when used for sustaining powers all will agree that it should be given in a diluted form and along with other food. In chronic disease malt liquors are advantageous; they represent food and drink, are less likely to be abused than stronger liquids and derive their tonic properties from their bitterness but they have disadvantage in sometimes not agreeing with the stomach. They are especially to be employed in wasting diseases where there is tendency to the loss of bodily fat from their containing much of solid matters viz. $2\frac{1}{2}$ ozs. to a pint of malt liquor in strongest English ale to $\frac{3}{4}$ of an ounce in the weakest ales and beers. Recently they have been replaced by patent preparations as malt extracts and maltine which have similar effects without being alcoholic.

ALETRIS FARINOSA.

Syn.—True unicorn, colic root, star grass &c.

Part used.—The root.

N O. *Hæmodoraceæ.*

Habitat.—United States.

Therapeutical action.—The root possesses a tonic, diuretic and vermifuge properties. In large doses it is emetic and cathartic.

Has been used extensively in diseases of the uterine organs and has been supposed to exert a specific influence upon the uterus itself, imparting tone and vigour to the reproductive organs. It is highly recommended as an uterine tonic by several English and American practitioners, being chiefly indicated in cases where abortion is feared, in which case it should be continuously administered during entire gestation; also useful for prolapsus uteri and sterility, amenorrhœa, dysmenorrhœa, dyspepsia.

Preparations and doses.—Powdered root 10 grs.

Aletrin $\frac{1}{2}$ to 4 grs.

Decoction (1 in 20) $\frac{1}{2}$ oz.

Fl. Ext. 10 to 30 ms.

Tr. (1 to 8) $\frac{1}{2}$ to 2 drs.

Ext. alch. $\frac{1}{2}$ to 2 grs.

ALKEKENGİ.

Sny.—*Physalis alkekengi*, Wintercherry, strawberry tomato. (*The Solanum Vesicarium of the old dispensatories*).

Part employed.—The berries.

N. O. Solanaceæ.

Habitat.—Europe, United States.

Characters.—Berries or baccate fruits, 2 or more celled, spherical, very smooth and marked with variegated stripes of colours generally greenish yellow or yellow, containing numerous albuminous seeds which are reniform in shape. These cherries have an acidulous and not unpleasant taste, with a bitterishness; but their covering is very bitter. It grows wild in France, Germany, and Italy, and thrives well in English gardens. The fruit ripens in October, and continues to December, when the plant dies to the ground. These berries are remarkable for their containing citric acid.

Properties and uses.—The ripe berries are full of seeds, said to act on the liver and they yield half their weight in juice. They are diuretic, but neither heat nor irritate, and are useful in strangury from cantharides and in kidney and urinary diseases. Hoffman re-

commends them in hæmoptysis and some authors have thought them useful in dropsy. The leaves are useful in gout.

Preparation and doses.—Tr. 1 to 2 drms. (Dried berries 1 part and proof sp. 4 parts).

Cherries.—5 to 6 for a dose.

Succus. 1 to 2 Fl. ozs.

ALLYL TRIBROMIDE.

Characters.—A colourless liquid, very soluble in ether, boiling at 422° F. and obtained by the action of iodide of allyl on $1\frac{1}{2}$ times its weight of bromine.

Physiological action.—It is a powerful nervous sedative, retarding or suspending the convulsions produced by “picrotoxine and strychnine.” Taken by itself, it produces a sort of intoxication with great lassitude, but is not fatal, at least in small doses.

Therapeutical action.—It is used with success both hypodermically and by the mouth in hysteria, asthma, whooping-cough, angina pectoris, infantile convulsions, gastralgia and neuralgia (Dr. Fleury).

Mode of administration and doses.—For hypodermic use, 2 to 3 drops dissolved in 15 to 30 mins. of ether and injected. The internal administration is best effected by giving it in doses of 5 drops (equivalent to about 2 grs.), contained in capsules, of which one or two may be given three or four times in 24 hours.

ALSTONIA CONSTRICTA.

Syn.—*Australian or Queensland Fever Bark.*

Part employed.—The bark.

N. O. Apocynaceæ.

Habitat.—*East Indies.*

Characters.—The bark occurs in flat pieces, of about quarter foot in length, one to two inches broad, and about $\frac{1}{4}$ of an inch in thickness. It is highly fragile and of a very light and soft spongy texture, of a deep brown colour externally and yellowish brown

colour internally. There are deep longitudinal fissures observed on its outer surface. The smell is rather disagreeable and acrid; taste is bitter.

It is generally classed as inferior to the Indian bark "Alstonia Scholaris"—"Dita bark;" (Guj.) "Sátvina;" (Hind) "Chhatiana."

Physiological action.—A cerebro-spinal stimulant and tonic, acting positively on the great sympathetic nerve centres and consequently increasing positively the vital force of the entire system.

Therapeutical properties.—It possesses the combined properties of quinine and nux vomica and is an excellent substitute for cinchona bark in the treatment of fever and ague; especially indicated in those cases of remittent fevers which will not yield to the salts of cinchona. In the Charily Hospital good results were obtained with it in intermittent fever and in the chills of hectic. In Australia, it has been used with uniform success as an antiperiodic in fevers, in coryza, and as a general tonic after fevers. It is also useful in chronic diarrhoeas and as an anthelmintic in worms.

Preparations and doses.—Bark in powder 3 to 8 grs.

Tr. (1 in 10) $\frac{1}{2}$ to 2 drs.

Fl. Ext. 3 to 8 mins.

AMMONIA.

Physiological and therapeutical actions.

- (a.) As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation and inducing perspiration, thus relieving intracranial pressure.
- (b.) By its direct action in dissolving the clots, the only agent which possesses this property are the alkalies, and the most efficient of these is ammonia.
- (c.) In the oedema and congestion of the lungs so often seen in apoplexy, it will frequently relieve congestion, partly by its stimulant action on the terminal capillaries and partly by its expectorant action on the bronchial mucous membrane.

(d.) By keeping up alkalinity of the blood and preventing further thrombosis.

These are advantages obtained by using carbonate of ammonia in cerebral hemorrhage and embolism (vide cerebral Hemorrhage. Part III).

Carbonate of ammonia is useful internally in doses of 10 to 20 grs. largely diluted in hysterical epilepsy.

8 mins. of Ammonia with 24 mins. of water injected into the vein of the right arm is useful in the sinking stage of puerperal fever.

6 mins. of liq. ammonia (1 in 3) similarly injected only in hopeless cases of snake bites, is also useful.

AMMONII FLUORIDUM.

Characters and Tests.—A white crystalline deliquescent powder, having an alkaline reaction. Its aqueous solution corrodes glass vessel in which it is kept or evaporated. It forms with soluble *calcium*—*salts* a precipitate of calcium fluoride, in the form of a transparent jelly, which is more visible on the addition of ammonia. Its aqueous solution gives a pulverulent precipitate with lead acetate.

Physiological and Therapeutical actions.—It lowers the pulse and temperature to a marked degree. It also possesses well marked diuretic properties and has a marked effect in reducing both the chronic and subacute enlargements of the spleen. Its extraordinary action in slowing the heart recommends its use in aortic and mitral regurgitation and in the case of aneurism of the right ascending aorta having a pulsating tumour in the right second intercostal space. It is also useful for bronchocele and other glandular affections. Best results have been obtained by Surgeon-Major J. Lucas and Dr. Coates, by the employment of the fluorides of ammonium and iron in hypertrophy of the spleen; and it seemed to excel any other mode of treatment for the same. Cases of goitre and other glandular enlargements have been similarly benefitted.

Mode of Administration.—A solution of ammon. fluoride, strength 4 grs. in 1 oz., is employed, given in 5 mins. doses, diluted in an ounce of water, and given thrice a day, after meals; and the dose

after a day or two, increased to 8 mins., then to 10, 12, 15, 18, 20 and so on upto 75 mins. or more, at intervals of a few days. The fluoride of iron may also be given in the same strength. Instead of commencing with 5 mins., the solution may be begun with 30 mins. and gradually increased to 12 drs. (6 grs.) in 24 hours, provided it be given well diluted and after food.

Dose.— $1/24$ to $\frac{1}{2}$ gr.

AMMONII VALERIANAS.

Characters.—Colourless, or white, quadrangular plates, deliquescent in moist air, having the odor of valerianic acid, as harp and sweetish taste, and neutral reaction. Very soluble in water and in alcohol. When heated, the salt fuses, gives off vapor of ammonia and of valerianic acid, and is finally dissipated without leaving a residue.

Therapeutical actions.—It is a much more uniform and reliable preparation of valerian than the usual offensive tinctures and oil and has been largely prescribed, as a general stimulant for the nervous system, by the French and American practitioners. It acts as a powerful stimulant and antispasmodic and is indicated in the treatment of various symptoms occurring in hysterical subjects, as spasms, hemicrania, globus and palpitations. It is useful in hypochondriasis and flatulence, neuralgia and nervous headaches, nervousness, insomnia, hysteria, epilepsy, chorea, and low forms of fevers attended with restlessness and morbid vigilance. It is valuable in cutting short attacks of rheumatic arthritis.

Dose.—2 to 8 grs.

As this salt is very deliquescent, it is best kept as a solution containing 25 per cent. of the salt, the dose being 15 to 30 drops.

AMYL HYDRIDE.

Syn. Rhigolene.

Characters.—A crude or impure hydride of amyl being the lightest fluid of the petroleum series, having a faint but pleasant odour, slight taste, causing no irritation, and when raised into vapour can be inhaled easily. Mixes with anhydrous ether in all

proportions. When purified by redistillation it is colourless, odourless and agreeable to breath.

Properties and uses.—It is not in any sense a local anæsthetic by virtue of causing insensibility from its absorption. It cannot be absorbed locally. It can be dispensed in the form of spray for producing cold. In that way it can be used for producing anæsthesia by extreme cold and hence it is useful for quick and superficial freezing. It is very popular in dentist's practice. The cold produced by rhigolene spray is so intense, that a portion of the skin has been seen to become hard, white and insensible within two seconds. The superficial layer of surface that has been rendered so frozen, is rendered a non-conductor, and deep freezing and deep insensibility are thereby prevented. Therefore a compound anæsthetic consisting of rhigolene and anhydrous ether in equal parts is best suited to serve the above purpose. It answers well for inserting a suture; for the painless extraction of loosened stumps of teeth, for puncture of a superficial abscess. Directed as spray over the closed eyelid held tense over the ball of the eye it causes a brief insensibility of the conjunctival surface, the conjunctiva an almost insulated surface being more easily rendered either sensitive or insensitive by local influences than other mucous surfaces, which rest on deep cellular basis, or than the cutaneous surface. Rhigolene, though not in itself a local anæsthetic, is capable of producing general anæsthesia on administration of its vapour by the lungs. Causes general anæsthesia with great rapidity, often within a minute, with recovery within 2 minutes. But being insoluble it is dangerous to be used for general anæsthesia.

Make a saturated solution of rhigolene and spermaceti and add camphor to saturation and apply this solution with cotton wool on burns; the evaporation of fluid gives instant relief to the pain and there is left on the surface a thin layer of spermaceti and camphor which exclude air; 1 dr. of camphor and 1 dr. of spermaceti will dissolve in 2 ozs. of rhigolene.

Rhigolene takes up iodine; this solution is applied with benefit on the surface of a foetid wound; is sprayed into throat for malignant or foetid ulceration. Inhaled as a weak solution it affords a

means of allowing iodine to enter the respiratory tract; the strength of iodine thus used is 5 grs. to 1 oz. of rhigolene, and then decanting off the water, an ammoniated solution is obtained, which acts as an excellent antiseptic and the vapour of which can be inhaled.

The same solution charged with camphor is very useful for the preservation temporarily, the natural history specimens. Dead objects are perfectly preserved by putting them for a short time into a bath of the solution, letting the solution escape as a vapour and leaving the camphor in the tissues.

AMYL NITRIS.

Characters and Tests.—Nitrite of amyl, obtained by passing nitrous vapours into amylic alcohol, rectifying the distillate, and collecting apart the portion that goes over at 205° F., is a clear, pale yellowish liquid, of an ethereal, fruity odour, an aromatic taste, and a neutral or slightly acid reaction. When freely exposed to the air it decomposes, leaving large residue of amyl alcohol. It is insoluble in water, but soluble in all proportions, in alcohol, ether, chloroform, benzol, and benzin. Its sp. gr. is 0.872 to 0.874. It burns with a fawn-coloured flame. It should remain transparent, or nearly so, when exposed to the temperature of melting ice (abs. of water). Warmed with excess of solution of potash it gives the odour of amyl alcohol. It should be preserved in small well glass stoppered bottles, in a cool and dark place.

Physiological actions.—Causes a great and rapid fall of blood pressure, with accelerated action of the heart. This diminution of blood pressure is due to dilatation, first of the systemic, next of the pulmonary arterioles. If inhalation be stopped, the blood pressure speedily returns to the normal. If it be continued, suffocative convulsions and death ensue. The dilatation of the arterioles is probably due to a direct action of the nitrite upon them, and not to any influence exerted on the vasomotor centres. Several hours after the administration of the vapour, the urine is found to contain sugar, this transient diabetes being due to dilatation of the hepatic vessels. It has been found to lower the heat of the body and to diminish the amount of carbonic acid excreted. From 2 to 8 mins.

of nitrite inhaled by a healthy man quickens the pulse rate in from 3 to 10 seconds; this is followed by flushing of the face, with throbbing of the carotids and a sense of oppression in the chest. Slight headache and general lassitude remain after the primary effects have subsided. (Dr. Brunton and others.)

Therapeutical actions.—1. As nitrite of amyl, like the other nitrites, lowers arterial tension, it is useful in anginal attacks of very severe character; as cases with loud systolic murmur and nightly angina; also aortic systolic murmur cases and irritable heart's action, but no apparent organic lesion.

2. Inhalation of 2 drops of nitrite of amyl with 2 drops oil of coriander at once breaks off the cold stage of ague.

3. Inhalation of 2 or 3 drops just at the moment of the aura in epilepsy, just cuts short the impending attack of epilepsy.

4. Inhalation of 2 or 3 drops or 1 or 2 drops even given internally checks the paroxysm of asthma.

5. By inhalation it is a good antidote for poisoning by opium or morphia. It was used with success in two cases of morphia poisoning; one was of a child 6 months old; it sometimes succeeds even at the advanced stage of intoxication. It is also a best antidote for an overdose of cocaine.

6. Its inhalation is further useful in angina pectoris, sea sickness, asthma and ague.

7. It is an antidote to chloroform and useful as an agent to avert the dangerous influence of chloroform anæsthetic. 5 drops to be dropped on a piece of lint and inhaled from 10 to 20 seconds.

8. It is also useful to restore animation in doubtful cases of death, either drawing, hanging, fainting, or fear of being buried alive.

9. Lastly, hypod. injection of 10 mins. of a 10 per cent. solution is very beneficial in lumbago, colic and paraffin poisoning.

It should be given with caution, especially to old subjects with rigid vessels.

Dose.—By inhalation 2 to 5 mins.

By mouth $\frac{1}{2}$ to 1 or 2 mins.

Vide Iso Butyl Nitris.

AMYLENE HYDRATE.

Syn. Tertiary amyl alcohol ; dimethyl ethyl carbinol.

Characters.—A colourless liquid soluble in 12 parts of water; also in alcohol, and in flavour more pleasant than paraldehyd.

Properties.—An hypnotic occupying an intermediate position between chloral and paraldehyd, being safer than the former and more free from the smell than the latter. It does not affect respiration or the heart's action, nor does it disturb the stomach. According to Dr. Lehmann, it has been very successful as an hypnotic in mental cases in doses of 15 to 75 grs., given as an emulsion with syrup.

Dose.—30 to 80 mins. with liquorice or in capsules, or as an enema with mucilage.

ANDIRA INERMIS.

Syn. *Geoffroya Inermis* ; Cabbage Tree of Tropical Africa.

Part employed.—The bark.

N. O. Leguminosæ. Sub-order.—*Papilionaceæ*.

Habitat.—West Indies, particularly Jamaica.

Therapeutical actions.—The bark, called cabbage tree bark, or worm bark in commerce, possesses anthelmintic, febrifuge and antifat properties ; and in combination with citric acid has been much prescribed in obesity. In large doses it is an emetic, cathartic and narcotic and in still larger doses poisonous.

Preparations and doses.—Powdered bark 20 to 30 grs. as a vermifuge ; 30 to 40 grs. as purgative.

Tr. 30 to 60 mins.

Fl. Ext. 10 to 40 mins.

Solid Ext. 3 grs.

ANGELICA.

Syn. *Archangelica Officinalis* and *A. Atropurpurea* ; Garden Angelica.

Part employed.—Root, herb, and seeds.

N. O. Umbelliferæ.

Habitat.—Northern parts of Europe, Asia and America.

Characters.—It is a biennial plant, from 2 to 4 feet high, growing in watery places and flourishes by the way sides in nearly all the United States. It flowers from June to September, the blossoms being greenish white. Its root is large and fleshy, resinous, and pungently aromatic. It is imported from Hamburg in the dried state for medicinal purposes. The plant, is cultivated for the purpose of candying, in the neighbourhood of London.

Therapeutical actions.—The root is an aromatic stomachic and carminative, giving strength and tone to the stomach and creating an appetite. Combined with tonics, it is useful for flatulent colic and pain in the stomach with debility. The fruit has similar properties. The tender stems and midribs of the leaves are boiled in syrup, and, when dried, constitutes candied angelica, which, taken as a dessert, are a very agreeable stomachic. Large quantities of angelica are used in the preparation of London gin and the liquor known as “bitters.” The fresh roots, bruised, and laid on an inflammatory tumor, will disperse it. Steeped in vinegar, and drank, is an infallible preservative against epidemics or infection.

Preparations and doses.—Powdered root ; 30 to 60 grs.

Fl. Ext. of root ; 30 to 60 mins.

Fl. Ext. of seed ; 5 to 30 mins.

ANHALONIUM LEWINII.

Part employed.—The flowers.

N. O. *Cactaceæ*.

Habitat.—West Indies.

Physiological actions.—Its primary action is that of a depressant rendering pulsation weaker and slower, often below 40 per minute and makes the surface of the body cool. It excels quebracho as a sustainer of respiration. Produces seminal emissions without erection.

Therapeutical actions.—It is a far better cardiac stimulant than the *cereus grandiflorus* and *cereus (cactus) bonplandii* and the best concentrated cardiac tonic we possess. In severe angina pectoris, pneumothorax, asthmatic dyspnœa, perhaps 2 or 3 drops of the fluid extract might be advantageously used occasionally until relief

is experienced, and then smaller instead of increasing doses might be administered. As it produces seminal emissions without erection, its long continued use in such cases, or its use in large doses, must be avoided. In highly wrought nervous individuals it should be sparingly used. In sluggish, lymphatic or sanguineous temperaments it may be used more freely. As an adjuvant to *digitalis* it is invaluable.

ANILINE.

Syn. Phenylamine.

Characters.—A colourless oily liquid obtained from coal tar, soluble in alcohol, ether and oils slightly so in water.

Therapeutical actions.—The sulphate of aniline had been used with marked success in the treatment of chorea among the negro population by Dr. A. Wilson. It was given in one grain doses four times a day in pills, composed of bismuth. subnitr. grs. 20, aniline sulph grs. 30, ext. gent. q. s., divided into 20 pills and 1 pill given night and morning. After the fourth day of treatment it was continued with camphor, made into pills, 1 gr. each. One case which was of 15 years duration was successfully treated by it. It is also useful in chronic spasmodic nervous affections. Recently it has been suggested as a remedy for phthisis, as it is supposed to destroy the “tubercle bacilli” in the blood. This consists of the inhalation of 1 part of aniline with 7 of oil of eucalyptus, anise, peppermint or gaultheria, from a specially designed inhaler; at the same time acetanilid is administered in 10 grs. doses 4 times a day; this breaks up in the system, aniline being one of the products. An ointment of iodine or iodoform with eucalyptus is also rubbed into the chest, and counter-irritants applied. Its internal administration frequently produces a blueness of the skin, which soon passes away and need not create any alarm.

Dose.—Best commenced with gr. $\frac{1}{2}$ of the sulphate of aniline, gradually increased until 2 grs. are given for a dose and even upto 8 or 10 grs. but cautiously.

ANTHRAROBIN.

Syn. Desoxyalizarin.

Preparation.—It is a product (or rather a series of products) obtained by the reduction of alizarin by zinc-dust in an alkaline menstruum.

Characters.—A yellowish white powder, which is stated to resemble chrysarobin very closely both chemically and therapeutically. It is nearly insoluble in water, weak acids, and the generality of saline solutions, but dissolves in caustic and carbonated alkalies, as also in alcohol and various other solvents. It oxidizes when exposed to the air (except when dry) as readily as chrysarobin, or even more so.

Therapeutics.—Several medical authorities in Germany and England have employed anthrarobin in cases of eczema, erysipelas, psoriasis and other cutaneous effections with much the same results as if chrysarobin were used, except that less inflammation is set up than with the latter.

ANTIFEBRIN.

Syn. Acetanilide; Phenylacetamide.

Characters —A white odorless crystalline powder, obtained by the action of heat on aniline acetate, soluble in 160 parts of cold water, 50 of warm, $3\frac{1}{2}$ of alcohol, 6 of ether and 7 of chloroform; also soluble in other alcoholic liquids as wine, sp. ether. nit. &c. Produces a slight burning sensation on the throat, and a feeling of warmth at the epigastrium, when swallowed.

Physiological actions.—It produces an increased arterial tension, with heart-beats lessened in number but increased in force. After a time there are diminished action and irregularity of rhythm. As the effects are developed, the reflexes lessen, and the irritability of motor and sensory nerves, and of the pneumogastric progressively declines. Analgesia and anæsthesia are products of its action. It stimulates the central nervous system, and then there follows a decline in the functions of motility and sensibility, which are finally suspended. It rapidly diffuses into the blood, the oxyhæmoglobin lessens in quantity, and a corresponding formation of methy-

hæmoglobin takes place. In poisonous or overdoses death does not ensue rapidly, the absorption of it being generally delayed from 24 to 36 hours, because antifebrin is not in itself a true poison, but it acts as a toxic by robbing blood little by little of certain principles indispensable to calorification, causing thus a progressive refrigeration, which is incompatible with life. If you leave animals poisoned by it in a warm place you will enable them to recover from its effects. In large or long continued doses, it causes cyanosis by diminishing the ozonizing function of the blood (the dose of it required is so small that it need not be given in dangerous amounts). Its antipyretic effects begin within an hour as a rule (sometimes 2 hours) after the dose has been taken, which reach their maximum in 4 hours and last for from 10 to 12 hours. As it reduces temperature only during fever, it should be administered at the point of maximum elevation of temperature.

Antifebrin compared with antipyrin.—Antifebrin does not produce nausea, vomiting, collapse, profuse sweating or a rash, like antipyrin. A much more smaller dose of it is required to produce an antipyretic effect, viz., a quarter of a gramme of it is equal to one gramme of antipyrin. Chief disadvantages of antifebrin are its want of antiseptic properties, its insolubility in water and being less anodyne than antipyrin and in its producing cyanosis in large or long continued doses and in cases of very high temperatures, &c.

Therapeutics.—As is obvious from the above mentioned physiological actions its therapeutic uses are to (a) reduce fever, (b) to lower the functional activity of motor and sensory nerves, and (c) to inhibit reflex actions.

It has been prescribed in fevers as an antipyretic, more powerful than quinine, kairin, thallin, antipyrin and phenacetin. It equals antipyrin in the duration of its effects and is only excelled in the quickness of its action by the external application of cold. The duration of its antithermic effects depends much upon the dose given; the minimum duration being 3 hours if the dose be small and the maximum 10 or 12 hours if it be a large one and the effects begin to be evident within an hour, reaching their maximum in 4 hours. Rapid apyrexia is more easily produced by a few large than by repeated small doses. When administered for a long time the dose requires to

be increased, otherwise no effects will be produced. The sweating produced by it is not so profuse as in case of antipyrin. Antifebrin is completely innocuous in affections that are not febrile, while in febrile affections, and particularly in typhoid fever, even when given in small doses, is liable to produce cyanosis. In insolation, rheumatism and such other cases where a quickly acting antipyretic is needed, then antipyrin is more suitable than antifebrin.

Like antipyrin it is also analgesic but to a lesser extent. Its sedative action is very often accompanied by decided hypnotic effects which is extremely welcome in cases in which pain is associated with obstinate sleeplessness. As an anodyne it is very beneficial in severe pain produced by powerful irritation of sensitive nerves as by cutaneous or subcutaneous inflammation as ostitis, periostitis, caries, operation wounds and where pain is radiated in various directions and in neuralgias of various nerves produced by central and peripheral causes. In hemicrania and headache it was successful in cases where bromides, quinine, caffeine and antipyrine failed. In insomnia nervous irritation after operations or long continued seriously painful illness it was an excellent sedative. It was used with success in doses of $7\frac{1}{2}$ grs. for adults from 1 to 4 times daily, in sciatica, lumbago, intercostal and mammary neuralgia, headache (chlorotic, dyspeptic, migrainous), neuralgia of forearm, dysmenorrhœa, senile gangrene, tabes, cancer, epilepsy, hepatic colic, nettle-rash, &c. It has also been prescribed in neuritis, pain due to neuritis, optic neuritis (checking the inflammation), locomotor ataxia, herpes zoster, sciatica (caused by local injury) and in epilepsy in those of full habit. It diminishes frequency of fits in epilepsy and is recommended in hysterical fits and infantile convulsions like antipyrin.

Antifebrin in minute doses does immense good in whooping cough and has recently been employed with success for relieving the pains in tonsillitis, and angina of scarlet fever and diphtheria.

Topical uses : In the strength of 20 to 30 grs. to one ounce of vaseline, antefebrine is a valuable external application for obstinate irritable ulcers, both soothing pain and subduing inflammation. In psoriasis combined with mercurial preparations, its results are excellent. It has also been tried in erythema, erysipelas, eczema, herpes, urticaria and other conditions associated with considerable irritation, externally.

Clinical observations and reports :—

A course of elaborate clinical experiments has been carried out by Dr. Vasily M. Edemsky, of St. Petersburg, for the purpose of studying the therapeutic effects of antifebrin in various febrile affections. The main outcome of the author's researches, as analysed by Dr. V. Idelson, may be given in brief outline, as follows :

A. *The Influence of Antifebrin on the Temperature.*—1 Speaking generally, the rate of the antipyretic action is directly in proportion to the size of the dose used. 2. Given equal doses, the strongest effects are obtained in typhoid fever; then follow in a descending scale, croupous pneumonia, pleurisy, chronic pneumonia, rheumatism, and, finally puerperal fever. 3. The drug should be given in from 10 to 20 grs. doses two or three times a day, or 5 grs. every hour. The latter mode of administration is by far the better, since the fall of the temperature proceeds then more slowly and evenly, without being accompanied by profuse sweats, cyanosis, or collapse. 4. For the first 20 or 30 minutes after a dose the temperature remains unaltered, but subsequently begins to sink about 1°C . every 5 or 10 minutes. 5. A combined administration of antifebrine with antipyrin, from 3 to 5 grs. of each, gives slighter antipyretic effects (including a later occurrence of a maximal fall) than that of antifebrin alone. 6. Antipyrin and thallin, in equal doses, and salicylate of soda in double doses, are very inferior to antifebrin in respect to their antipyretic effects. (Prof. T. J. Bogomoloff strongly recommends a combined administration of antifebrin in fractional doses every hour, with 5 grs. of antipyrin, in puerperal and surgical fever, pulmonary phthisis, and acute rheumatism.

B. *The Influence on the Pulse and Respiration.*—1. The fall of the temperature is accompanied by a decrease in frequency of the pulse and respirations. 2. The decrease, however, is by no means always proportionate to the size of the dose. [Thus, in puerperal and typhoid fevers, smaller doses sometimes improve the pulse and respiration far more considerably than larger ones]. 3. Further, given equal doses of the drug, their effects vary according to the disease. 4. A combined administration of antifebrin with antipyrin shows a less marked influence on the pulse and respiration than antifebrin alone. 5. Given all other

equal conditions, antipyrin, thallin, and salicylate of soda likewise prove to be inferior to antifebrin, 6. The tension of the pulse is increased under the influence of antifebrine when it is given in moderate and even in more or less large doses.

C. *General Conclusions.*—1. Antifebrin may be especially recommended in typhoid fever as a good substitute for hydrotherapeutic methods, which are rather troublesome and by no means invariably successful, while depressing the temperature the drug subdues delirium, and improves sleep and appetite. 2. The remedy is further indicated in pleurisy and acute rheumatism, where it promotes the absorption of effusions. [The same may be said, according to Dr. Bogomoloff, in regard to croupous pneumonia]. 3. Antifebrine is one of the best remedies for erysipelas of the head or face, where it rapidly relieves the headache. 4. In febrile affections in general antifebrin should be preferred to antipyrin, quinine, thallin, or kairin, since “it depresses the temperature through its influence on the nervous system by increasing loss of the systemic heat, without causing any injury to the nerve-centres, heart, or kidney.” 5. When employed in frequent small doses the drug gives rise to collapse but exceedingly rarely, and when it does the symptoms are dependent upon either some impurity of the preparation employed, or idiosyncrasy of the patient.

Eleven cases of phthisis were treated by inhalations of benzene fumes and antifebrin internally, in from 2 to 4 grain doses, in wafers. In a majority of cases daily dose varying from 2 to 12 grains secured a permanent apyrexia during the whole day and night, the decrease of temperature not being accompanied by sweats, cyanosis, or rigors. In a certain proportion of cases, however, even larger doses (28 grs. per day) fail to establish a stable defervescence. In such patients the drug may occasionally give rise to collapse, with a rapid fall of temperature down to 34°C , and that even when the remedy is used in such small quantities as 4 grains. Now and then antifebrin cannot be tolerated in consequence of its causing a kind of intoxication or a state resembling that arising from inhalation of coal-gas. (Dr. Alexïi I. Shtcherbakoff.)

Dr. Jakov I Trusevitch had seen grave collapse following an 8 grain dose of antifebrin in a typhoid girl of 12. Similarly Dr. S. S. Golousheff, of Moscow, had observed collapse from a 5 grain dose in a

woman. Curiously enough, a subsequent gradual increase of the dose (up to 8 grs.) in the same patient was tolerated quite well. Hence we may conclude that organism may get habituated to the remedy. Another case of collapse has been reported from the administration of antifebrin in a patient with typhoid fever of an intermittent type. It is believed that in some cases at least, collapse may be caused by the antipyretic action of the drug coinciding with a spontaneous fall of the temperature (the result being a decrease far below the standard).

Prof. Jakov S. kremiansky warmly eulogizes the internal use of antifebrin in consumption, not only as an antipyretic, but also as a bactericide. He frequently observed a distinct diminution of tubercle-bacilli in the sputa, effected by the drug. As a rule he gives from 3 to 5 grains, 3 or 4 times daily, but in such cases, where the doses fail to secure a permanent defervescence, he increases the amount sometimes to 60 or even 70 grains a day. He never yet met with a single instance of collapse or any other untoward effects from the drug.

Contraindications.—In anæmic patients (particularly women), small doses readily, produce marked physiological effects. In febrile disorders, and particularly in typhoid fever, even when given in small doses, it is liable to produce cyanosis; this cyanosis also results after ingestion of large doses and usually in cases attended with marked elevation of temperature. *Vide also Antipyrin.*

Summary.—1 An antipyretic, anodyne, sedative and hypnotic.

2 Tonico-nervine,

3 Antiepileptic and antiepileptic.

4 Mitigant of Variola vera.

5 Antiarthritico-rheumatic.

6 Supersedes quinine, antipyrin, bromides, iodides, chloral, aconite, morphia, caffeine, kairin, salicylic acid and water.

Limit and mode of administration and doses.—An usual antipyretic dose for an adult is 8 to 12 grs. It is advisable not to exceed the dose of 30 grs. per day. Usually 8 grs. is an effective dose for an adult to reduce the fever. As for the women it is best to begin with small doses, say 5 to 6 grs. to be repeated in an hour. In anæmic patients not more

than 30 to 38 grs. should be given in 24 hours and its administration should be discontinued at intervals. It is conveniently given in brandy and water or whisky, or for children, in warm sweetened water, and give every 2 or 3 hours in doses of 2 to 4 grs., according to the height of temperature and age of the child, until the temperature remains sub-normal. Maximum adult dose is 15 grs.

ANTIMONY.

Physiological action.—It has a specific effect as a tonic to several nerve centres in the *medulla oblongata*, among them to the vasomotor : an action which is reversed by poisonous doses. It acts also on the skin and mucons membranes ; and its sudorific action depends on the stimulation of the nerve centres in the *medulla* and of *sweat glands* and their distributed nerves.

Therapeutics.—Antimony is not an anodyne and is therefore useless against pain ; but it possesses a tonic action on the *medulla oblongata* similar to that of *zinc, phosphorus, atropine and picrotoxine*, and is therefore indicated in cases where wakefulness is due to exhaustion, either alone or as an adjunct to alcohol and opium. Antimonial powder checks the nightweats of phthisis in the same way as Dover's powder and alcohol. A drug which is a most suitable adjunct to antimony where cough is present is *conium*. As a tranquilizing remedy in various affections excellent results have been obtained from addition of 4 or 5 grs. of *ext. conii* to *antimonial* or *James powder*.

Antimony, is a specific for acute pleurisy. The quantity employed should not produce any purgative, emetic or sudorific effects ; if it does, it should be diminished or entirely stopped. Vin. antimony mins. 15, with magn. sulph. dr. 1, in 1 oz. of peppermint water, was used in some cases of effusion, in the pleural cavity with success. Here antimony acts, as mercury is reputed to act as an absorbent. In some exceptional cases of acute pleurisy, when there is not required to produce any emetic and purgative effects, then morphia gr. $\frac{1}{8}$ should be combined with same quantity of tartar emetic, and dr. 1 of magn. sulph., with a large mustard poultice to the affected side. Under this treatment a case was cured in 3 days. In cases of serous inflammations complicat-

ing rheumatic fever, it is very useful. Cases of acute rheumatism having effusions into the cavities of the chest or meningitis, were greatly benefitted by antimony; out of 23 such cases only one case was lost.

Clinical report by Surg. Maj. E. Lawrie:—That antimony in frequently repeated small doses of $\frac{1}{6}$ gr. of tartar emetic, every hour or two has the power of completely dissipating early local inflammation and as useful in local inflammations as quinine is in malarious fevers. It prevents and arrests inflammation if this is not originated or kept up by a specific or septic cause. That the well known tolerance of antimony sets in after it has been used several times, either in large or small doses, and it also increases frequency of heart's action. It may be given in all inflammatory diseases, (being given in the Afzalgunj hospital with success) which are not of a specific nature. It may be given without fear of causing nausea or diarrhoea or depression, even in diseases where its use appears to be contraindicated. It was given with unfailing success in mucous enteritis, which is of all diseases the most fatal to children in the plains of India. In these cases it arrests fever and diarrhoea when nothing else will. It has been lately employed in typhoid fever and has been found to cut the disease short with such certainty that it almost appears doubtful whether the lesion of typhoid is specific or is not rather incidental or adventitious. In typhoid fever it actually stops the diarrhoea for the simple reason that it arrests the inflammation which causes it; and here diarrhoea depends on the inflammation of the intestines. Tolerance of the drug is very soon established and can be administered with cardiac tonics.

ANTIPYRIN.

Syn.—*Analgesine*; *Dimethyloxyquinizin*.

Characters and Tests.—A new artificial alkaloid containing oxygen, a product from coal tar. It is commercially produced as a free base. It occurs in the form of thin crystalline scales, or in powder, of a white colour, inodorous, and slightly bitter taste. The fusing point is 240° F. Water and amylic alcohol in the cold each dissolve their own weight of antipyrin, and a larger proportion when heated; absolute alcohol takes up half, chloroform two-thirds; and ether 1/50 of their respective weights. The

aqueous solution (1 in 1000) treated with sp. æther. nitr. gives a characteristic green colour in about a minute. 2 C. C. (1 in 1000) gives with one drop of perchloride of iron a deep red colour, which upon the addition of 10 drops of concentrated sulphuric acid passes into bright yellow. An aqueous solution (1 in 2) should be neutral, colourless, free from acidity, and not altered by sulphuretted hydrogen. It combines with acids to form salts.

Physiological actions.—Antipyrin powerfully resists the action of ferments and of putrefaction, having been found unchanged in putrefying urine after 8 days. It exerts a decided antiseptic action. The blood corpuscles change their form, the hæmatin separates and the blood is tinted chocolate. The heart beats quicker, and there is a sense of warmth. Then the pulse goes down, perspiration follows, and a feeling of chilliness with pallor comes on, the fever lowering several degrees (1 to 5). While normal temperature is not affected by it, “the decline of the febrile heat begins in 10 to 20 minutes after the dose has been given, and persists from an hour to sixteen hours, or longer, according to circumstances.” Antipyrin appears to be free from one source of danger common to the germicide antipyretics—the profound depression, almost collapse, which comes on with the sweating and precedes the next exacerbation of the fever, and in facts ushers it in. It occasionally produces nausea and vomiting and sometimes a rash similar to scarlatina or measles. It lessens reflexes and is analgesic.

Therapeutical Properties.—1. *Antipyretic.* A powerful, certain and rapid antipyretic, usually given in pyretic states, in doses of 15 grs. every hour for the first two or three hours, and sometimes as much as 20 to 30 grs., which is the safe limit of a single maximum dose. The reduction of fever remains for from 6 to 24 hours; usually 5 hours. The temperature slowly and gradually falls one hour after the administration of the first dose, (sometimes even with 10 to 20 minutes), and continues falling after the subsequent hourly doses. The fall from dr. $1\frac{1}{2}$, in three hourly doses of dr. $\frac{1}{2}$ each, varies from $2\frac{1}{2}^{\circ}$ to $3\frac{1}{2}^{\circ}$. The duration of fall varying from 6 to 18 hours, that is before the temperature has reached the degree it had before the administration of the drug. The temperature only remains at its lowest point in 2 hours. The rest of the time is occupied in gradual descent and subsequent

ascent of the temperature. As an antipyretic it is indicated in typhoid fever, insolation, rheumatic fever, erysipelas, pneumonia, scarlet fever, tuberculosis, acute bronchitis with fever, pleurisy, influenza, &c.

2. *Analgesic, anodyne, &c.*—(a) *Headaches*: Antipyrin is an effective remedy for *migraine (bilious headache), nervous and congestive headaches, hemicrania, &c.* *Migraine or bilious headaches* rapidly yield to it even they may be of very long time; some cases were of 10 years' duration and in no case did it fail. The best mode of administering it in such cases is to give first a dose of grs. 10 in syrup and peppermint water every hour for 2 or 3 hours, and then at the intervals of six hours, for a day or two after, to prevent all chances of recurrence, this generally being at the desire of the sufferer. 2 or 3 doses are quite sufficient to produce the desired effect. It is similarly beneficial in *headaches from railway travelling*, in the sick headache of women subject to uterine disorder, in *ciliary neuralgia or headache* accompanying eye diseases as iritis, glaucoma and corneal ulcers. It relieves instantly and permanently these various forms of cephalalgias, while *antifebrin* gives some relief but does not effect a cure. In *obstinate tic douloureux and hemicrania*, it may be given hypodermically, in doses of 8 grs. dissolved in an equal amount of water; sometimes a little cocaine (about $\frac{1}{6}$ gr.) may be added to the hypodermic solution, to avoid pain or smarting which the simple injection of antipyrin causes. That as a local anæsthetic antipyrine rivals morphine in the extent of its action, and as it does not interfere with the nutrition or lead to a "craving" it is considered superior in that respect. 5 grs. of antipyrin hypodermically, is equal to $\frac{1}{3}$ gr. of morphia in its anodyne effect. When injected at the most painful spot, and although it produces at first for a few seconds local pain and burning this is quickly followed by analgesia round the point of injection. This relief lasts for at least 6 hours. No disagreeable effects as vomiting, sweating, or rash on the skin, &c., were noticed.

(b.) As an anodyne it gives also best results when used hypodermically in *lumbago, sciatica, biliary colic* (without disturbing intestinal functions), *nephritic colic, angina pectoris, dysmenorrhœa, asthma and severe dyspnœa from whatever origin.*

(c.) Antipyrin is similarly beneficial in anginas of coronary arteries and aorta, heart, and aneurism.

(d.) It has also been found that when injected *per anus* in quantity of 30 grs. with 5 or 6 ozs. of water, antipyrin removes or entirely, prevents the *pains of pregnancy, without retarding delivery*. In doses of 15 to 30 grs. internally, or 7 grs. hypodermically it is prompt and efficient in relieving the *after pains and painful uterine contractions following the use of ergot*.

(e.) On account of its power to *diminish reflex function* and to *relieve pain* due to *centric and perepheral lesions of the nerve apparatus*, it has been found useful in *epilepsy, chorea, whooping-cough, locomotor, ataxia, trifacial neuralgia associated with neuritis, zona, &c.*

(3.) *Antirheumatic*: “*In no form of febrile disease,*” says Bartholow, “*has antipyrin been so efficient as in acute rheumatism, and here it maintains the first place as a remedy. In acute rheumatism it is superior to salicylates and to other remedies. From 15 to 20 grs. every 3 to 6 hours, will be required until cessation of joint pain, and the disappearance of swelling.*” As is the case with other drugs, some care is requisite subsequently to guard against a relapse, “*and hence persistence is necessary in the use of the remedy for some days after the attack has apparently ceased, but the amount given should be slowly reduced. It is likewise useful, in pains of acute gout, subacute and chronic rheumatism, muscular rheumatism, rheumatic pains in the head and limbs, rheumatic neuralgia, internally in the amount of 45 to 60 grs. daily, or in acutely painful and obstinate cases, a single hypodermic injection of 7 or 8 grs. may be given in addition, which not only arrests pain but cures it.*”

4. *Hæmostatic*.—Antipyrin has been successfully employed in various forms of *hemorrhages from internal and external parts*. In *epistaxis*, a piece of cotton dipped into a 3 per cent. solution and introduced into the nostrils proves effective. In doses of 4 grs. every 2 hours it is useful in *pulmonary hemorrhages of every kind*, often succeeding after failure of ergot, digitalis, atropine, &c.; 90 grs. dissolved in 6 ozs. of hot water, and inhaled (5 or 6 inhalations every half hour), at once checks *haemoptysis*. A 4 per cent. solution of antipyrin at once checks *hemorrhage from the wounds, injuries and*

hemorrhage during operations. It also arrests uterine hemorrhages ; (in this respect it differs from salicylic acid or salicylate of soda, because the latter is sometimes apt to produce uterine hemorrhages or hemorrhages in other parts of the body under certain conditions mentioned under salicylic acid) ; while on the contrary both *antipyrin* and *salicylic acid* are *uterine sedative*. Antipyrin is likewise useful in *hemorrhage from the bowels, urinary tract* and as a topical application over *hemorrhoidal ulcers*.

5. *Sea sickness.* It is a very useful remedy as a protection against sea-sickness, when taken in doses of 15 to 30 grs. (even 45 grs. sometimes) before embarking.

6. *Lactafuge.* Antipyrin is also useful for *suppressing the milk secretion*. Dr. Salum recommends it in daily doses of 8 grs. at three intervals, and his experience is that the secretion diminishes on the first day and does not return.

7. *Laryngismus Stridulus :* Antipyrin is found to be a very useful drug in *laryngismus stridulus* ; to a child 18 months old, 2 grs. every hour was given for a few hours until it fell asleep and then every 2 hours ; it was subsequently successfully used in 23 cases of *laryngismus stridulus*.

8. *Incontinence of urine.* Antipyrin has recently been found effective in nocturnal incontinence of urine in adults in doses of 8 to 15 grs. at bed time.

9. *Urticaria :* There is a form of *urticaria of nervous origin* in which antipyrin has specific powers. $7\frac{1}{2}$ grs. doses cured four cases. It should be given 2 or 3 hours before the expected period.

10. *Diabetes :* Antipyrin is found to act beneficially in *diabetes mellitus and insipidus*. (*vide following clinical reports*).

Clinical observations and reports : Having so fully described the various therapeutical and practical uses of antipyrin, I think it advisable to describe only a few following observations to make this chapter as short as possible :—

1. Drs. Germain Seé and Dujardin Beaumetz from observations on 18 cases found that antipyrin not only caused disappearance of sugar but also corrected the thirst and the other symptoms in the

nerves and skin; but in cases where there was *very abundant discharge of sugar it failed*; and did more harm than good in cases where there was *much emaciation, pallor or swelling of the eyelids*. Further antipyrin was found serviceable in cases of diabetes, when a strict dietary regimen was very irksome and patient's condition was for a long stationary. In some such cases more starchy foods might be allowed by doses of antipyrin. Antipyrin has *more influence over diabetes insipidus*, than perhaps any other remedy.

The usefulness of antipyrin in diabetes insipidus has been still further strengthened by the report of three cases published by Dr. M. Opitz. These cases show that after the prolonged and fruitless use of numerous other remedies the subjective symptoms of diabetes insipidus, as well as the amount of urine eliminated, yielded to the administration of antipyrin. In some of these cases a permanent cure was said to be obtained; in another the cure persisted some time after the suspension of the drug; while in the third case the amount of urine returned to its original volume after the cessation of the use of antipyrin, but was again reduced to normal when the drug was readministered. With this reduction in the amount of urine secreted there was decrease in thirst, increase in the body weight and undisturbed sleep returned &c.; these cases seem to show that the result was directly attributable to the antipyrin, for in one case the disease had lasted more than 20 years, and has been rebellious to the most varied forms of medication, while in another the amount of urine eliminated daily reached the enormous quantity of sixteen quarts, and was yet cured by the use of the drug.

According to Prof. Watson Smith, antipyrin has been found to be a potent remedy for *sea sickness*. Administered in doses of 15 grs. three times daily before embarking, and the first three days of the voyage, it has been found in every case to completely prevent sea sickness. It has been given extensively and with the most satisfactory results by Dupuy and some others &c.

2. Surgeon-Major John Ogilvy, M.D., gives 8 gr. doses of antipyrin in cases of *bilious headaches*. One dose is taken on the first recognition of the attack, the patient lying down in a quiet and

darkened room, and resigning himself to rest. After an hour another similar dose should be brought to the patient and administered. It may be that a third or fourth is required, but generally sleep or a pleasant languor follows the first or second dose, accompanied by gradual relief from headache. No unpleasant after effects of any kind are felt, but, on the contrary, the appetite returns, and the sufferer is well.

3. 15 grs. in about half-an-ounce of orange syrup, with or without water, given two or three times a day, is stated by Legroux to cure *chorea* very quickly, the worst case taking only 23 days under this treatment.

4. M. Germain Sée believes that this drug is the remedy *par excellence* for pain, and he has found it efficacious in rheumatism, gout, and in neuralgia. Moreover, he reports that in four out of five cases of locomotor ataxy the pains were removed by the drug.

Lépine has found that antifebrin relieves the pain in this disease.

I have tried antipyrin in three cases of locomotor ataxy, in which the pains were severe, with relief in each instance; in one case with complete abeyance.

A man, aged 48, in an advanced stage of locomotor ataxy, applied to me for relief on account of severe shooting pains in the legs, of almost daily recurrence. I gave him antipyrin in ten-grain powders, one to be taken in water when the pains came on. After taking two powders the pains ceased, and he was free from them for a week, when they returned, to be again checked by a powder. He stated that he had not been so well for twelve months, having been continually in pain. It must be remembered that Althaus, several years ago, recommended salicylate of soda for the pains of locomotor ataxy, and this drug greatly resembles antipyrin in its therapeutic action.

I think that antipyrin will be found to be of great use in the treatment of these hitherto intractable pains.

5. During an epidemic of *whooping cough* at Milan it was used in 22 cases, 12 of which were of great severity, with the result that in every instance the disease was completely cured in from 4 to 5 weeks; the age of patient varied from 5 months to 9 years. In all the cases symptoms subsided or became more marked according as antipyrin was given or withheld. The good effect of the drug is due partly to its inhibitory action on the nervous system and partly to its antiseptic properties.

6. Almost ever since its introduction into therapeutics, antipyrin has been employed with success in the treatment of various hemorrhages, whether occurring in the form of epistaxis, metrorrhagia, purpura or hemorrhage of traumatic origin. There is a striking example of this property as follows:—From a boy 14 years of age, enormously hypertrophied tonsils were removed. The tonsils were removed by a bistoury and the bleeding surface vigorously mopped with a camel's hair pencil soaked in a solution of antipyrin. Scarcely any hemorrhage whatever occurred (St. Germain).

7. Several cases of asthma have been reported to have been cured by the internal and hypodermic uses of the drug; and particularly a case has been reported to have been cured in which *grindelia*, *lobelia*, *pyridine*, &c., had failed.

8. Hypodermic injection of antipyrin with many physicians has been taking the place of *morphia* for the allaying of pain; and its use in this respect is a protection against the chronic craving for these narcotics; neither somnolence or excitement or any ill effects like *morphia* are produced. Prof. Germain Séé has employed it in a large number of cases with success in doses of $7\frac{1}{2}$ grs.

Contraindications.—Antipyrin is distinctly *contraindicated during menstrual period or presence of catamenial flow*; if administered it checks the flow and other alarming symptoms show themselves. Similarly *objectionable or contraindicated, in collapse, disturbance of gastro-intestinal tract, respiration and circulatory apparatus, with fatty liver and kidney*; while *antifebrin* is not so contraindicated in such cases. The use of antipyrin and antifebrin in *eruptive fevers as small pox, measles, &c.*, is contraindicated, because in several such

cases serious symptoms were the result of their administration. So also their use in *Bright's disease* is injurious to the life of the patient. In cases of *pneumonia* and *broncho-pneumonia* we should be very *guarded* (although *not totally contraindicated*) in giving these agents, because in two cases of pneumonia, one an adult and another a child, fatal collapse was the result. (Dr. K. C. Bose.)

Mode of Administration and doses :—15 to 30 grs. is an usual adult dose ; $7\frac{1}{2}$ to 15 grs. is the usual dose for grown up children ; for infants and children the safe dose is $1\frac{1}{2}$ gr., to be given hourly as the child counts years ; that is for one year old the dose is gr. $1\frac{1}{2}$, for 2 years old 3 grs. and so on, and may be given in water or wine, and flavoured with syrup and peppermint water.

Inj. Antipyrin Hypod. 1 gr. in 2 mins.—Dose, 8 to 30 mins. or more.

Inj. Antip. et cocainæ. Hypod.—The above containing 1 gr. cocaine hydrochlorate in 150 mins. *Dose.*—The same. Less painful in use than the simple injection.

Antipyrin should not be prescribed with sp. æther. nitr, as it forms a green compound which is believed to be poisonous.

APIOL.

Syn. Parsley-Camphor.

Characters.—An oleo-resin obtained from the fruit of the common parsley (*Apium Petroselinum*). It occurs as a greenish brown oily liquid, with a peculiar faint odour and disagreeable taste.

Therapeutics.—Apiol is an excellent febrifuge for tropical use especially in combination with quinine or antipyrin. Pills composed of quinine sulphate grs. 2, apiol gr. $\frac{1}{3}$, and permanganate of potash gr. $\frac{1}{4}$, are useful in cases of arrested menstruation accompanied by feverish symptoms. In doses of 3 grs. it is successfully employed against intermittent fevers and amenorrhœa. In large doses of 30 to 60 grs. it causes stupefaction.

(*Parsley leaves* applied to the breasts several times a day will suppress secretion of milk effectively. It is a common garden plant).

Dose.—3 to 6 mins. ; maximum dose 15 mins. ; best given in capsules or syrup.

APOCYNUM CANNABINUM.

Syn. American or Black Indian Hemp; Canadian Hemp; Dog's bane.

Part used—The Root.

N. O.—Apocynaceæ.

Habitat.—United States.

Characters :—It is a perennial plant, indigenous to the United States of America, rising about two feet high. The root is large cylindrical and somewhat branched, $\frac{1}{4}$ to $\frac{1}{3}$ inch thick, of a pale brown colour, longitudinally wrinkled and transversely fissured; brittle; fracture short, white; the bark rather thick; the wood porous, spongy, with delicate medullary rays and a thin pith; inodorous; taste bitter disagreeable.

Physiological actions.—It hastens disintegration of the nitrogenous elements of the body and nerve tissue, and eliminates solids from the blood through the kidneys. In large doses it is a violent emeto-cathartic.

From the most recent clinical experiments by Dr. Ringer and others in England it has been found that *apocynum* acts like *strophanthus*, *digitalis*, *adonidin*, &c. That it acts through the heart and not as a local renal diuretic, and that its chief use as a diuretic is in cardiac dropsy and that diuresis ceases as soon as the dropsy has all been run off.

Therapeutical actions.—In small doses it acts as a diaphoretic, expectorant, diuretic, and slightly stimulant tonic and vermifuge; and in still larger doses it acts as an hydragogue cathartic and emetic. It is considered as one of the best diuretics and hydragogue cathartics that can be employed in anasarca of Bright's disease as it causes not only marked diminution of anasarca but also decrease of albumen and casts.

Its advantages as a diuretic are :—(1.) A small quantity only is required to produce diuresis, catharsis or emesis; (2) has tonic properties; (3) is harmless, a free emesis resulting from an overdose. It has succeeded in cases of dropsy after failure of other drugs. It is also useful in hydrothorax, pleurisy, acute rheumatism,

tonic conditions of the stomach, kidneys and lacteal vessels and for destroying the *ascaris vermicularis*.

Preparations and Doses.—Root 5 to 20 grs.

Solid Ext. 1 to 4 grs.

Fl. Ext. 5 to 20 mins.

Tr. (1 to 10 Pf. Sp.) 5 to 40 mins.

Decoct. (1 to 60 of water and boiled to 40) $\frac{1}{2}$ to 1 oz.

Apocynin. $\frac{1}{4}$ to $\frac{1}{2}$ gr. as a diuretic and expectorant; $\frac{1}{2}$ to 2 grs. as an emetic.

APOMORPHINÆ HYDROCHLORAS.

Characters, Tests, &c.—Obtained from Morphine or Codeine by heating with excess of Hydrochloric Acid without access of air. Occurs in small, greyish-white, shining, acicular crystals, turning green on exposure to light and air, without however losing any of its medicinal powers, inodorous, and with a very faint acid reaction on moistened litmus paper. Soluble in 6·8 parts of water and in 50 parts of alcohol, the solutions being decomposed with production of a green colour when they are boiled. Solution of bicarbonate of sodium, added to an aqueous solution of the salts throws down the white, amorphous alkaloid, which soon turns green on exposure to air, and forms a bluish green solution with alcohol, a purple one with ether or pure benzol, and a violet or blue one with chloroform. With dilute solution of perchloride of iron it gives a deep red and with nitric acid a blood red coloration.

Physiological actions.—It first excites and afterwards exhausts the irritability of the respiratory centre. Emesis occurs in from 5 to 20 minutes, the contents of the stomach being usually voided with violent and visible muscular action of the stomach walls, without subsequent nausea or prostration, and wonderfully increasing the mucous secretion. Lessens blood pressure and stops the heart in diastole by acting as a muscle poison. It does not affect the temperature. As regards the nervous system, it first excites it, and then is followed by paralysis and convulsions. Muscular irritability is impaired, but not destroyed, motor and sensory

functions remaining intact; hence its convulsant action is due to a direct impression on the spinal cord (the spasm centre). It also produces emesis by its spinal action. Within ten minutes after the instillation of 6 to 12 drops of a 2 per cent. solution, the cornea and conjunctiva are rendered anæsthetic; moderate mydriasis occurs, with marked nausea and lessening of the glandular secretion.

Therapeutical actions,—Apomorphine is the most effectual, certain, and speedy emetic; it is the most useful of all the emetics for narcotic poisoning and best given hypodermically in doses of 1/16 to 1/5 gr.; emesis occurs in from 2 to 4 minutes and the contents of the stomach are ejected forcibly and totally. It will produce prompt vomiting especially in cases where the jaws are rigidly closed and the stomach pump is absent or inadmissible. Though a derivative of morphia it has no narcotic effects in doses required to cause emesis. It can be used in the case of poisoning by morphia itself. Apomorphia affords special advantage in dealing with refractory children, insane people, or with adults, in cases of poisoning when coma, delirium, or spasm prevents the oral administration of emetics. As it produces emesis by its spinal action, profound narcosis will prevent its action; it also fails to produce emesis during chloroform narcosis. It is useful in such forms of poisoning as carbolic acid, also alcoholic intoxication and sunstroke. In infantile convulsions produced by over-feeding, if given hypodermically it cuts short the convulsions as soon as the stomach is emptied.

It is successfully employed in chronic inflammations with dryness of the mucous membranes; catarrh even of the most obstinate kind rapidly yielding to it, when employed in conjunction with syrup of tar. As an expectorant it is useful in bronchial asthma, and given with an equal quantity of morphia every 2 or 4 hours it lessens the cough and increases the fluidity of the sputa. It is also most effective in acute catarrh of the larynx, trachea and bronchi in adults and children and in croup and in conjunction with salicylate of ammonia in capillary bronchitis. It relieves the spasm of hic-cough, chorea and epilepsy.

Clinical Reports.—It was used successfully in a case of oxalic acid poisoning, in a case of hydrocyanic acid poisoning, and in a case

of alcoholic poisoning where large quantities of brandy came out of the stomach with subsequent improvement in the condition of the patient.

Preparations and Doses.— $1/32$ to $1/16$ to $1/12$ gr. as an expectorant.

$1/12$ to $\frac{1}{4}$ gr. as an emetic by the mouth.

$1/25$ to $\frac{1}{6}$ gr. „ „ hypodermically.

SYRUP. APOMORPH. HYDROCHL. Strength.— $\frac{1}{4}$ gr. to 1 oz.

Dose.— $\frac{1}{2}$ to 1 Fl. dr.

INJECTIO. APOMORPH. HYDROCHL. Strength. 1 gr. in 50 mins. of water. Dose.—3 to 10 mins. This does not lose strength by becoming coloured.

ARECA.

ARECA CATECHU OR BETEL-NUT TREE.

Syn.—*Areca* or *betel-nut* (Eng.); *Noix d' Arec* (Fr.); *Arekanusse* (Ger.); *Sopari* (Guj.).

Part employed—The seeds.

N. O.—*Palmæ*. *Habitat.*—*East Indies*.

Characters.—The seeds, which are well known to all the inhabitants of India, resemble horse-chestnuts in size and shape; they are of a rusty grey colour, very hard, with a tessellated surface and well marked hilum. When split open, the albumen is seen to be ruminated and traversed by a network of veins and the cut surface resembling that of a nutmeg.

Chemical Composition and Test.—The seeds contain catechutannic and gallic acids with oily matter, and gum; besides these, it contains three alkaloids: (1) *Arecolene*, which is a colourless volatile liquid, soluble in water, alcohol and ether and forming a crystallizable hydrobromide. (2) *Arecaïne*, which is neutral, soluble in water and dilute alcohol, but insoluble in ether, chloroform and benzol. (3) A third one occurs in much smaller quantity. Caustic alkalies form with brown portion of the nut a bright red colour and ferric chloride forms a bright green.

Physiological actions.—It increases the flow of saliva, lessens perspiration, promotes a healthy condition of the gums, and produces a weak but continuous and sustained exhilarating effect.

Therapeutical actions.—Mixed with the leaves of piper betel (chavica leaves) and with lime, this nut forms the masticatory so well known under the name of Betel. It is astringent, and combined with lime it is used by the Hindoos as a prophylactic against dysentery. In great Britain Dr. Edward Morris used it successfully in doses of from 4 to 6 drs. Being similar to catechu and kino in its action, it may be used in the astringent mixtures adapted to bowel complaints. But its chief use more recently is in its vermifuge action for the expulsion of tapeworm. The *Forest and Farm* recommends it highly as a vermifuge for young dogs, as both effective and safe—the dose being graded to 2 grs. (or 2 mins. of the fluid extract) to each pound of the animal's weight; 60 grs. of powdered areca nut made into a ball with honey is a good vermifuge for a large dog. Whether used as a vermifuge for man or animal, the bowels should be cleansed by fasting and castor oil. The powdered charcoal from the nut is employed as a good astringent dentrifice. The nut is said to be more effective in coarse than in fine powder.

Preparations and Doses.—*Powdered seeds* 15 to 30 grs. as an astringent ; $\frac{1}{2}$ to $\frac{3}{4}$ oz. as an anthelmintic.

Fl. Ext.—10 to 40 mins. as an astringent.

1 to 3 drs. as an anthelmintic.

ARSENIC.

Besides the already known medicinal properties or use of arsenious acid, there are few others as follows :—One part of liq. arsenic to three parts of distilled water was employed as an injection in as many as *hundred cases of goitre*, 10 to 15 mins., being injected parenchymatously from 2 to 3 times a week ; it is preferable to the analogous injection of iodine, as the cures effected by arsenic are as lasting, and the reaction in the tumour is less. *Cases of generalized sarcomatous tumours* have been cured by the injection of arsenic. A case of generalized sarcomatous

tumours of the skin in a girl aged 9 years has been cured by the subcutaneous injection of liq. arsenic diluted with two parts of water ; the dose for each injection was first $2\frac{1}{2}$ mins., which was subsequently increased to 4 mins. It has been found useful in *subacute general chorea* ; a girl aged 10 years, suffering from subacute general chorea, had been completely cured by 5 mins. doses increased to 30 mins. thrice a day. After entire suspension of the drug for two days, it was continued in doses of 14 mins. for a time, and the chorea did not recur. In epilepsy it is often advantageously given when from any cause the bromides have been suspended or stopped from being administered. For those who have been suffering from *overwork or long continued anxiety*, it acts as a best nerve tonic, especially when given alternately with phosphorus. Minute doses ($1/50$ gr.) of arsenious acid are very useful in cases of *summer diarrhœa* ; the same dose if given after meals for one or two days, will effect a cure in cases of *persistent coryza* accompanied by sneezing and running from the nose. For *asthma and chronic bronchitis*, unaccompanied by much expectoration, if given steadily for a long time, will exert a most beneficial action on the lungs, and will have similar effect in *chronic pulmonary phthisis*.

ARSENIC BROMIDE.

Characters, Preparations &c.—Bromide of arsenic, or arsenic (tri-) bromide, AsBr_3 , is best prepared by adding to a mixture of 1 part of bromine and 2 parts of carbon disulphide, as much arsenic as is necessary to decolorize the liquid by shaking. More bromine and more arsenic are now added, until the liquid faintly retains its color, while metallic arsenic is still present. The solution is now filtered and allowed spontaneously to evaporate. This yields crystals of AsBr_3 , which are colorless prisms, very deliquescent, and a strong arsenical odor. They melt at $20\text{--}25^\circ \text{C.}$, and boil unaltered at 220°C. Their sp. gr. is 3.66. AsBr_3 is decomposed by water with formation of arsenious anhydride. With alkaline bromides it forms crystallizable but unstable compounds.

Melted bromide of arsenic dissolves metallic arsenic, in which case, according to Wallace, oxybromide of arsenic is formed.

LIQUOR POTASSII ARSENITIS ET BROMIDI.

Syn.—*Clemen's solution.*

Preparation.—Arsenious acid 73 grs. ; bicarbonate of potassium 73 grs. ; bromine 117 grs. ; water sufficient to measure 16 ozs. ; boil the arsenious acid and bicarbonate of potassium in 2 ozs. of water till dissolved ; when cold add 10 ozs. of water, then the bromine and make with water to the given volume. Stir occasionally during a few hours, then filter. This liquid was originally described by Dr. Clemens as “a chemical union of arsenious acid and bromine” but as the action of bromine on arsenious acid results in the formation of arsenic acid and hydrobromic acid, the above formula has been adjusted to yield these products as potassium salts. The solution contains arsenic equal to one per cent. of arsenious acid.

Therapeutics.—Liquor arsenici bromatus has been long since employed in diseases of the nervous system and especially epilepsy, in which excellent results have been obtained from its use. Doses of one or two minims in a wineglassful of water twice a day may be given for months without the usual unpleasant effects of a long continued arsenical course. Dr. Clemens has obtained excellent results from its use in cases of epilepsy. Unlike bromide of potassium it does not require to be given in increasing doses and instead of interfering with digestion, improves nutrition and strength. It is similarly beneficial in diabetes mellitus.

Dose.—1 to 3 or 5 mins.

ARSENITE OF COPPER.

Syn.—*Scheele's Green.*

Characters and Preparation.—A fine apple-green powder, employed in the arts under the name of *Scheele's green*, as a pigment. It is prepared on the large scale, by dissolving 2 pounds of pure sulphate of copper in 12 quarts of water, previously heated in a copper pan. In another pan, 2 pounds of pure calcined pearlsh are dissolved, with 11 ozs. of arsenious acid, in 4 quarts of pure water. Both liquors are strained through linen, and then the arsenical solution is slowly added to the solution of copper. The precipitate is collected on a cloth, and carefully, dried, and is soluble in ammonia as well as in nitric acid.

Therapeutics.—In summer season we have frequent calls to attend children and adults suffering from diarrhœa, dysentery, cholera morbus and like diseases. The stools are slimy and sometimes bloody, and as frequent as 5 to 20 daily. Dissolve one tablet of 1/100 gr. in from 4 to 6 ozs. of water and have the patient take one teaspoonful of the solution every 10 minutes for an hour and hourly thereafter. If the patient is a child 6 months old or less, a small portion of this dose may be given, but several drops can be given in the manner and at times indicated, and the results are quite as satisfactory as when adults are treated. It has been used in this manner with success for the last two years.

Dr. John Aulde, of Philadelphia, Pa., states that arsenite of copper “was used in probably twenty cases of bowel troubles, in patients ranging from one year up to 60 or more, and varying from simple colicky pains to diarrhœa and vomiting of several days’ duration, and one case of acute dysentery accompanied by profuse bloody discharges from the bowels, and in every instance the treatment proved eminently successful; not a single failure occurred, and, as a rule, the pain and tenesmus subsided after the first hour, or after the taking of the first five doses.”

The eminent doctor has lately confirmed this satisfactory experience in a dozen or more recent cases.

Since the publication of Dr. Aulde’s report as above, the arsenite of copper has been used in similar cases of diarrhœa and dysentery, by Dr. Worsham, with benefit. The observations of Dr. Worsham differ from those of Dr. Aulde in that he has used more than one tablet in the same case and that one tablet will not always effect a cure.

Mode of Administration and Dose.—Dissolve a tablet of 1/100 gr. in 6 ozs. of water. Of this a teaspoonful to be taken every ten minutes for the first hour, and every hour thereafter. The dose given at each time thus corresponding to about 1/5000 gr. For infants, the dose will be proportionate to their age.

ARTICHOKE.

Syn.—*Cynara Scolymus* ; *Articocalus* ; *Cynara hortensis* ; *Garden Artichoke*.

Part employed.—Succulent receptacles and fleshy leaflets of the calyx.

N. O.—*Compositæ*.

Habitat.—*Southern Europe*.

Characters.—The plant is so named from its being sharp like dog's teeth. The artichokes are so well known as not to require a description. They are natives of the southern parts of Europe and cultivated in the gardens of England as a culinary vegetable. They are perennial.

Therapeutics.—The plant has long been known to possess tonic and diuretic properties. The receptacle and fleshy leaflets of the calyx are eaten after being boiled and dressed with butter, salt and pepper. When young the head may be cut off and eaten raw as a salad ; the bottoms of the heads, and the fleshy parts of the scales, are easily digested, though flatulent, and afford but little nourishment. They are preserved by drying them to a horny consistence, and are then so light, that forty scarcely weigh a pound. The leaves are bitter, and give out their bitterness with the juice, on being bruised and pressed. This juice is powerfully diuretic and has been used for many years for general dropsy and particularly ascites ; it has undoubted diuretic and tonic virtues. The formula is a saturated tincture in gin (equal parts of juice and gin). An extract may also be prepared. An infusion of the leaves is likewise diuretic, and may be employed with the same intention. The leaves themselves are astringent and contain tannin and have been employed in France instead of galls.

Dose.—A wineglassful of the saturated tincture thrice a day.

ASCLEPIAS CURASSAVICA.

Syn.—*Blood Flower* ; *Bastard Ipecacuanha* ; *kurki* (Bomb.).

Part employed.—The herb.

N. O.—*Asclepiadææ*.

Habitat.—*Central America and West Indies*.

Characters.—Although not a native of India, it is common in gardens and in some places has run wild. The plant is herbaceous and

may be easily recognized by its oleander-like leaves, and red and orange flowers in terminal branches. The follicles are like radish pods. It has a woody branching root with light brown bark and numerous fibres. The bark is thin and when fresh exudes a milky juice; taste bitter and somewhat acrid.

Physiological actions.—It acts directly upon the organic muscular system, and especially upon the heart and blood vessels, causing great constriction of the latter and distension of the larger arteries. Secondly it occasions great dyspnoea, vomiting and diarrhoea (Dr. Guimaraës.)

Therapeutical actions.—In the West Indian Islands, the root is employed by the negroes as an emetic and is occasionally sent to England as ipecacuanha. The property of asclepiadin, which is its active principle of a glucosidal character, is found to closely resemble that of emetin. The common name of the herb (*blood flower*) is derived from the property which the leaves have of checking capillary hemorrhage when bound on a recent wound. Given on an empty stomach it acts as a very prompt tannicide. It is used with benefit as an injection in vaginal leucorrhœa.

Dose.—Fl. Ext. 1 to 2 fl. drs.

ASCLEPIAS TUBEROSA.

Syn.—*Pleurisy Root, Butterfly Weed, White Root, Wind Root, Colic Root.*

Part used.—The root. *N. O.*—*Asclepiadææ.*

Habitat.—*United States.*

Characters.—Root large and fusiform, dried in longitudinal or transverse sections; from 1 to 6 inches long, and about three-quarters of an inch or more in thickness; the head knotty, and slightly but distinctly annulate, the remainder longitudinally wrinkled; externally orange brown, internally whitish; tough, and having an uneven fracture; bark thin, and in two distinct layers, the inner one whitish, with large, white, medullary rays; it is inodorous, and has a bitterish, somewhat acrid taste; when long kept it acquires a gray colour.

Therapeutics.—The root possesses an antispasmodic, carminative subtonic, diaphoretic, diuretic and laxative properties. It exercises a

special healing power over the serous tissues ; gives prompt relief in flatulent colic ; is of great value during the febrile stage of dysentery. A strong tea drunk, relieves the breathing of pleuritic patients, and is supposed to have a specific action on the lungs to promote suppressed expectoration. If taken in frequent doses till it produces perspiration, it is a specific in pleurisy. It is also indicated in fevers, colds, coughs, hepatic derangements, constipation, amenorrhœa and inflammatory diseases. It is used for triturating with Gelsemin, Veratrin, Hyoscyamin, Podophyllin, Sanguinarin, &c., to qualify their action. Its power is increased by administering it in warm water.

Preparations and Doses.—Powdered root ; 20 to 60 grs.

Fl. Ext. ; 20 to 60 mins.

Asclepedin (concentration) ; 1 to 5 grs.

ASTERACANTHA LONGIFOLIA.

Syn.—*Hygrophilia Spinosa* ; *Ikkirie* (Singalese) ; *Nirmulli* (Tamil) ; *Tálmakhára* (Hind.) ; *Tálimkhána* ; *Kolsunda* (Bomb.) ; the seeds called *Ekharo* (Guj.).

Parts employed.—The herbaceous plant and the root.

N. O.—*Acanthaceæ*.

Habitat.—Hotter parts of Ceylon and Western Coast of India ; found also in watery places and ditches about Bombay.

Characters.—Roots often biennial, tapering, with numerous rootlets ; stems herbaceous, ramous, jointed, a little flattened, hairy, from 2 to 3 feet high ; branches opposite like the stem, and also nearly erect, leaves an exterior, opposite, sessile pair at each joint, within these and subalternate with the spines, several small ones in a verticel, all are linear-lanceolate, margins often revolute, hairy, almost bristly, size various. Flowers verticelled, numerous, sessile, large, of a bright blue ; bracts lanceolate, margins and outside bristly. Spines are 6 in each verticel, between the leaves and flowers, awl-shaped, spreading and a little recurved.

Therapeutics.—It is commonly used by the Ceylon practitioners, who consider it as the best remedy in dropsy internally ; they also use it externally as a fomentation in cases of inflammation and rheumatism.

Six cases of dropsy have been reported to have been cured by the Surgeon to the Government Civil Hospital at Kurunayala. The leaves are cooling and useful in jaundice. The root besides having diuretic properties, is cooling and mucilaginous, and is further indicated in hepatic obstructions with anasarca, rheumatism, gonorrhœa &c. The seeds are aphrodisiac.

Preparations and Doses.—(1) *Acetum*.—Freshly dried leaves 2 ozs. to be mascerated for 3 days in 16 ozs. of distilled vinegar and then pressed and strained; *dose* $\frac{1}{2}$ to 1 Fl. oz.

(2) *Decoction*.—Boil one ounce of the root in one pint of water, until 14 ounces of the decoction are obtained; *dose* $\frac{1}{2}$ to 1 $\frac{1}{2}$ Fl. oz. daily.

(3) *Infusion*.—Infuse 2 ozs. of dried plant in a pint of boiling water for half an hour and strain; this quantity is to be administered in divided doses to one patient during 24 hours; this is a commonly used preparation.

(4) *The ashes of burnt plant* as used by native practitioners in Ceylon.—*Dose* $\frac{1}{2}$ dr.

(5) *Seeds*.— $\frac{1}{2}$ to 2 drs.

AURI ET SODII CHLORIDUM.

Characters and Tests.—A mixture composed of equal parts of dry Chloride of Gold and Chloride of Sodium, occurring as an orange-yellow powder, slightly deliquescent in damp air, odorless, having a saline and metallic taste, and a slightly acid reaction. The compound is very soluble in water; at least one-half should be soluble in cold alcohol. When exposed to a red heat, it is decomposed and metallic gold is separated. A fragment of the compound imparts an intense, persistent, yellow colour to a non-luminous flame. Its aqueous solution yields, with test-solution of nitrate of silver, a white precipitate insoluble in nitric acid, but soluble in ammonia.

Therapeutical actions.—The action of chloride of gold is in some respects similar to that of the salts of silver and mercury; recently it has been more frequently employed, and it is said by Dr. Martini to avert the tendency to habitual abortion to which some women are liable. It is a *nervine* of great efficacy in *hysteria*, and was used with signal

effect in many cases in which there was no indication for the local treatment of uterine affections (Dr. Niemeyer). It is an alterative and resolvent and is also given with advantage in *secondary and tertiary syphilis* after a long course of mercury or iodide of potassium has failed to eradicate the disease. It certainly has proved very efficacious in *hysteria and amenorrhœa dependent upon torpor of the ovaries*, and in *chronic metritis* with scanty menstruation: sterility dependent upon these states is said to have been cured by it. Excellent results are obtained by its use in melancholia, hypochondria, and allied mental conditions of depression. Like phosphorus it should not be given in plethoric states of the system. (Dr. Bartholow).

Dose.— $\frac{1}{16}$ to $\frac{1}{4}$ gr.; $\frac{1}{8}$ gr. in pill should be taken an hour after dinner and supper and gradually increased upto 8 pills daily.

BAMBOO-BRIER ROOT.

Syn.—*Smilax Sarsaparilla*, *Smilax Medica*.

(The rhizome of the species of *Sarsaparilla* growing in China is called *Smilax China*; *Choba Chini* (Guj); *China Wood* (Eng.).

Part employed.—*The Root*.

N. O.—*Smilacæ*.

Habitat.—*Southern United States*.

Characters.—It is about one-fifth of an inch thick, very long, cylindrical, longitudinally wrinkled, greyish-brown or orange-brown externally, white and mealy or somewhat horny internally, with numerous scattered wood-bundles forming a circular zone; nearly inodorous; taste mucilaginous, bitterish, and acrid. The thick, woody, knotty rhizome, if present, should be removed.

Therapeutical actions.—It possesses alterative, resolvent, detergent, diaphoretic and stimulant properties. Dr. King reports better results from the use of this American drug in primary and secondary syphilis than from any of the *Sarsaparillas* generally employed. It is successfully employed in scrofula, venereal diseases, rheumatism and cutaneous diseases. It forms one of the ingredients of the *mist. Stillingiæ. Camp. or Suc. Alterans*.

Preparations and doses.—Fl. Ext. 30 to 60 mins.

Solid Ext. 5 to 10 grs.

Smilacin (concentration) 2 to 5 grs.

BANANA ROOT.

Syn.—*Musa Sapientum*.

Part employed.—*The Root*.

N. O.—*Musaceæ*.

Habitat.—*Cultivated every where in the tropics*.

Properties.—Banana root is said to have valuable alterative properties and is useful in the treatment of bronchocele and strumous affections. Its cold infusion neutralizes the intoxication of a drunkard or a person under the full effect of spirituous drinks.

Dose.—Fl. Ext. 10 to 30 mins.

BAPTISIA TINCTORIA.

Syn.—*Wiln Indigo ; Horsefly Weed*.

Part used.—*The Root*.

N. O.—*Leguminosæ*.

Habitat.—*United States*.

Physiological actions.—It is a powerful excitant of the glandular system and the uterus. Prevents decomposition of the tissues and arrests rapid disintegration.

Therapeutical actions.—In small doses the root possesses alterative, laxative, stimulant, emmenagogue, tonic and antiseptic properties. In large doses a powerful emetic and cathartic. Its chief indications are in amenorrhœa, erysipelas, hepatic disorders, scarlatina and typhoid fevers, chills and hectic fevers, deficient nutrition, scrofula, diphtheria, gangrene and mortification, and all diseases that have a putrescent tendency. *It is unsafe to use it during the period of utero-gestation, as it is capable of producing abortion.* Externally it is a valuable remedy for all kinds of ulcers and may be sprinkled upon the surface of the sore, made into an ointment, or into a poultice with elm bark.

Preparations and Doses.—Fl. Ext. 5 to 15 mins.

Baptisin (extractive) 1 to 4 grs.

BAYBERRY.

Syn.—*Myrica Cerifera* ; *Wax Myrtle* ; *Waxberry* ; *Candleberry*.
(The Indian species, *Myrica Sapida* is called *Kataphal*, *Kaiphall* in Hind. and Bomb.)

Part used.—The Bark of the Root.

N. O.—*Myricaceæ*.

Habitat.—United States. (Other species found in the temperate parts of Europe, India and Cape of Good Hope).

Characters.—A shrub rising three or four feet high, growing on the sea shore, from Canada to Louisiana, with alternate simple, resinous and dotted leaves. The bark is about half an inch thick, scabrous externally and pitted from the separation of pieces of suber, of a mottled rusty-brown and dirty white colour, suber warty ; substance of bark and inner surface of a deep dull red colour ; when soaked in water it produces a deep red solution ; taste strongly astringent and somewhat pungent ; odour rather camphoraceous.

Therapeutical actions.—The bark possesses alterative, astringent, styptic, carminative, diaphoretic and somewhat tonic properties. Imparts tone to the mucous membrane especially where there is softening, and whenever a stimulating astringent is needed. It is indicated in diarrhœa (especially that form of diarrhœa connected with phthisis and scrofula), dysentery, hemorrhages catarrh of the mucous membrane, and diuresis. It is eminently useful in scrofulous and aphthous affections, chronic bronchitis, chronic gonorrhœa and gleet, with atony of the digestive apparatus.

The Hindoos use it, mixed with ginger, as a stimulant and rubefacient application to the extremities, in the collapse stage of cholera. The powdered bark is a good sternutatory, and is applied, either alone or mixed with vinegar as a lotion, to the relaxed and spongy gums and putrid sores. When chewed it acts as a sialagogue and relieves toothache ; pessaries made of it promote uterine action. An oil prepared from it is dropped into the ear in earache. The fruits when boiled, yield a kind of wax, called the *Myrtle Wax*, which forms a salve for all ulcers or old sores, superior to most of the salves in use. A poultice made by bruising the bark, and simmering it in water, and

stirring in Indian meal or slippery elm flour, till it obtains the proper consistence cures scrofulous ulcers.

Preparations and Doses.—Root-bark 20 to 60 grs.

Fl. Ext. 15 to 30 mins.

Myricin (concentration) 1 to 5 grs.

BAYCURU.

Syn.—*Statice brasiliensis* (Mart).

Part employed.—*The Root.*

N. O.—*Plumbaginaceæ.*

Habitat.—*Brazil.*

Properties.—Baycuru is one of the most powerful astringents in the vegetable kingdom. Although but recently introduced from Brazil and Buenos Ayres, where it has long been held in high repute, it has attracted much attention from the profession in America, and at a meeting of the Pharmaceutical Conference in Dublin some very flattering testimony was adduced in its favour. It may be used for all purposes for which kind and catechu are employed, but its special indication is as an application to aphthous and ulcerative affections of the mouth and pharynx, to ulcers and scrofulous sores and as an injection in leucorrhœa. By the natives it is considered an unfailing remedy in all kinds of enlargements and glandular swellings.

Preparations and Doses.—Root 5 to 10 grs.

Fl. Ext. 5 to 20 mins.

Tr. (1 to 10) 10 to 60 mins.

BELLADONNA AND ATROPINE.

Leaving aside the pharmacology and physiological actions of this old drug belladonna and its active principle atropine, I speak simply on their new specific therapeutical directions and practical uses as follows:—

(1).—Tr. belladonna and tr. aconite to the extent of 10 drops per day to children 2 or 3 years old, are very effective in *simple acute laryngitis, stridulous laryngitis, rancous cough*; the same combination is further serviceable in *whooping cough and influenza*. Belladonna is also useful in *asthma, emphysema* and *suffocative paroxysm*. It is *contraindicated in pneumonia and broncho-pneumonia*.

(2.)—Combination of tr. belladonna and liq. hydrag. perchl. has been used for some years in the treatment of croup in doses of $\frac{1}{50}$ gr. of perchloride of mercury with 2 to 5 mins. of tr. belladonna every half hour for a child 2 years old, with great success ; first give an emetic to dislodge the already formed membrane. The secret of the success is in the persistent administration of this combination even when the symptoms are apparently unfavourable. (Children can tolerate large doses of belladonna).

(3.)—A number of cases of *infantile convulsions* have been cured by tr. belladonna ; it is useful in cases in which convulsions are *not due to dentition or to disorders of digestion* ; given in very small doses between the attacks of infantile convulsions, it serves to prevent subsequent attacks. *It will not serve to cut short the convulsive seizure during the attack itself, but it only acts as a preventative.*

(4.)—A combination of tr. belladonna and bromide of potassium is very effective in the *nocturnal incontinence of urine or enuresis in children*, even after other drugs have failed.

(5.)—In nervous and hysterical girls suffering from gastralgia, it is best given with codeia.

(6.)—It is useful, when given combined with quinine, in Zona, facial neuralgia of rheumatic origin, eye affections, catarrhal and purulent conjunctivitis.

(7.)—It is very useful in the treatment of strangulated hernia ; the soft extract being freely applied to the strictured neck to facilitate the subsequent reduction of the hernial tumour by taxis ; here it acts by its effect in relaxing muscular fibres and overcoming the irritating contractility by paralysing the motor nerves. In strangulated hemorrhoidal tumours there is no remedy comparable to belladonna as a local application, with also $\frac{1}{2}$ gr. of extract given internally thrice a day.

(8.)—Belladonna ointment applied to the os in the *rigidity of the os uteri* during labour is also very useful. Application of the ointment to the posterior margin of the *perineum* is also useful in relieving the rigidity thereof during labour.

(9.)—It has a well known action in *spasmodic strictures of the ureters or urethra, paraphimosis, iritis and painful dysmenorrhœa.*

(10.)—Among the favourite tissues of the body in which belladonna acts, are those of the *female sexual organs*. Many sterile women enjoy the best of health and have never suffered from any irregularity of the sexual apparatus. To such belladonna has been prescribed on several occasions internally and it has been found that after taking it for some weeks they have become pregnant. (Dr. John Jones.)

(11.)—Belladonna is further indicated in such diseases as tetanus, nervous vomiting in pregnancy, scarlatina, rubeola, spermatorrhœa and as a lactafuge. It is useful in all diseases, particularly of a chronic character, which are based upon abnormally increased sensibility such as melancholia, epilepsy, chronic neuralgia, amaurosis &c.

(12.)—The fact that belladonna causes dryness of the mouth and throat, leads to the idea of employing it in counteracting the disagreeable after effects produced by the iodide of potassium. In one of the cases in which after several days' use of the combination of iodides and extract bellad. in pills, the belladonna was discontinued without the iodides producing any disagreeable results.

(13.)—Lastly belladonna is useful in indurations of the glandular organs, obstruction and retarded circulation of the abdomen and dropsy.

ATROPINE.

What is said of belladonna serves equally well for its active principle *atropine*, but its employment is generally reserved for hypodermic and ophthalmic purposes (and sometimes internally to be presently described).

(1.) As atropine paralyses the inhibitory nerves of the heart and acts as a stimulant of the respiratory centre, it is recommended in accidents occurring during the use of chloroform as an anæsthetic, or in conditions where the heart is arrested through reflex stimulation of the *vagus* and paralysis of the respiration. If therefore atropine be given subcutaneously before the production of anæsthesia, immense amounts of chloroform will be sustained and will act as a *prophylactic*. The dose required is $\frac{1}{32}$ gr. Half the amount may be given to children, while double the dose may be given in an emergency from the use of chloroform.

(2.) In the pain of various forms of *dysmenorrhœa*, in *ovarian neuralgia* and in the pelvic pains experienced a few days after delivery and due to pressure of the womb on certain nerves, atropine by subcutaneous injection is serviceable. In case of severe after pains of labour it may also be given internally, with advantage, in one drop doses of officinal liq. atropine.

(3.) According to Moretti of Rome atropine has succeeded in paralysis agitans when every other therapeutic agent has failed. In a memoir lately read before the Lancisi Society, Dr. Moretti, among other cases, cited that of the distinguished painter, Vertunni, who for years had to abandon his profession owing to the advances of the disease, which, after paralysing both legs and arms, threatened him with asphyxia, but who by the exhibition of atropine regained all his physical powers, and was able to produce pictures in his best manner.

(4.) As an external application, when mixed with lanoline it is beneficial in *supraorbital neuralgias*.

(5.) A solution of atropine (1 in 1000) applied to *mosquito bites* relieves the itching and shortens the duration of the papulæ.

(6.) In the *colliquative sweatings* it is often so efficient as to render other treatment unnecessary.

(7.) *Spermatorrhœa*, which is a troublesome disease is successfully treated by hypodermic injections of atropine.

(8.) It is useful in *sea sickness* and *ptyalism* internally.

(9.) Dr. Stirling, of Victoria, in a paper recently submitted to the Medical Society of that colony described some results which go a long way towards proving atropine to be of immense value in arresting hæmorrhage. In one severe case, where the bleeding from the apex of the left lung was so copious as to place the patient's life in imminent danger none of the ordinary remedial measures, including the free use of ergot, were of the slightest use, but a hypodermic injection of 1/150th grain of atropine arrested the hæmorrhage at once, and a similar dose every six hours sufficed to control it permanently.

(10.) *Flaxen haired women* are especially susceptible to the action of atropine.

Dose.—Atropine 1/60 to 1/30 gr. by mouth.

1/150 to 1/60 gr. hypod.

ATROPINÆ SANTONAS.

As keeping, in solution, far better than other preparations, the santonate of atropine is now recommended. The dilating power is about equal to that of atropine itself, and it does not irritate the conjunctiva. The salt should be preserved in orange or "non-actinic" glass bottles, or otherwise secluded from light.

BERBERIS AQUIFOLIUM.

Syn.—*Holly-leaved Barberry*; *Mountain grape*; *Oregon grape*.

Part employed—*The Root*.

N.O. *Berberidaceæ*.

Habitat.—*Pacific Slope*; *Western United States*.

Characters, Chemical Composition, &c.—It is a shrub, growing from 2 to 6 feet high. Leaflets in pairs from 7 to 11, ovate to oblong lanceolate, $1\frac{1}{2}$ to 4 inches long, acuminate, evergreen, *shining above*, sinuately dentate, with numerous spinous teeth; racemes $1\frac{1}{2}$ to 2 inches long, clustered chiefly in the subterminal axils; fruit globose. The root is 1 to 2 feet or more in length and about one-fourth in diameter, *extremely hard and tough, of a bright golden yellow colour*. The cortical portion is thin and papyraceous, dull greenish or brownish yellow. It has an intense but pleasant bitter taste. It contains an alkaloid *berberina*, which is also found in *Berberis vulgaris*, *Coptis trifolia*, *Calumba*, and *Hydrastis canadensis*. This alkaloid or active principle of *Berberis aquifolium*, is similar to, if not identical with, *Hydrastin* in the *Hydrastis canadensis*; it also contains a peculiar resinous matter which gives a precipitate with potassium iodide, also an acid and some other proximate elements.

Vide *Berberina* under *Berberis Vulgaris*.

Physiological actions.—*Berberis Aquifolium* gently stimulates the kidneys, increases the waste and repair rapidly, stimulates digestion and assimilation and excites absorption. The hepatic and gastric secretions are aroused and poised at the normal medium, while the whole physical economy falls into line with the happiest and most enduring results. The vaso-motor centres are influenced first, and straightway the vascular system responds to the wonderful influence in the drug. It leaves the bowels unaffected, or occasionally very slightly constipated. Its most

decided effects being on the nerves and skin. Patients who have long been languid and drowsy, regain their former vivacity, and those with dry, rough, and scaly cutaneous surface have acquired a moist, smooth, and soft integument.

Therapeutical actions.—This plant has, in general, the medicinal properties common to the *Berberidaceæ*, and others of its own, and unites in a marked degree the properties of the *Hydrastis Canadensis* with those of the *Podophyllum Peltatum*, but it has not the valuable local effect upon the mucous membranes that we find in *Hydrastis*. Its bitter or tonic properties are very much superior to *gentian* or *hydrastin*, even equal to quinine; and some regard it more effective in malarial fevers.

It is one of the most powerful alterative and tonics we have. Its power as an alterative is certainly very efficient, for it seems to be capable of eradicating *scrofulous*, *cancerous*, and *syphilitic* contaminations from the blood. Its exhibition seems indicated in *chronic scaly or squamous skin diseases*, unaccompanied by inflammation or congestion, more particularly in *psoriasis and pityriasis*. In these scaly diseases, so called, which often perplex the most skillful of the profession, berberis has proved the most efficient internal remedy. For cleansing the complexion and rendering it soft and beautiful it has no equal. It is however in *secondary and tertiary syphilis* that its most wonderful action is exhibited. Here in a simple decoction, with no iodide of potassium or any other drug, does this drug so efficiently act upon the glands as to eliminate all the morbid material and reconstruct, as it were, a new bony tissue. It is also useful after a mercurial course, to eliminate mercury from the system and is most available in those old, broken down cases of syphilis in which mercury and iodide of potassium have failed. Possessing, as it does, the power of exalting all the functions of the recuperative system, and, at the same time, antidoting the syphilitic virus through the agency of a constituent element, or curative property inherent in its composition, as quinine in Peruvian bark, it naturally follows that we have in this new remedy the great desideratum in *Hunterian chancre*. And, I want to remark, that repeated experiments have proved it to be most useful in those cases with the *syphilitic cachexia well defined*.

The action of this invaluable drug on the economy of man is really astonishing ; it acts as a cathartic, diuretic, diaphoretic, tonic, and alterative. On the liver, it quickly relieves congestion, and seems to increase the activity of the spleen, as is evinced by a rapid elaboration of red blood. As a stimulant to all glands it is invaluable, as in chronic tonsillitis, and enlargement of the prostate. (Drs. Hammond and Hastings.)

Clinical Observations and Reports.—Out of numberless reports from hospital and private practice, I give only a few following typical ones :—

1. Report from F. M. Reynolds. In October last a Mr. Hall, native of London, England, æt. about thirty, and body well nourished, presented himself to me with typical psoriasis diffusa, involving the entire integument excepting that of parts of the face, hands and feet. It was a second attack, and had then troubled him three or four months, growing gradually worse in that time.

During his first attack some years ago, being unsuccessful with any treatment in Canada, where he then lived, he went to London, England ; and under the treatment of Balmano Squire, surgeon to the British Hospital for Diseases of the skin, which he says consisted of baths and ointments and internal treatment, the composition of which he does not very well remember, he pretty soon got well, and so remained until the present recurrence.

After calling upon me in October last, and pending his efforts to get into some hospital where he could avail himself of, what I supposed to be necessary, baths and treatment, he met with Mr. Higgins, of this city, and was induced by him to try berberis aquifolium, which he did in teaspoonful doses of the tincture four times a day.

Improving remarkably in a short time, he and Mr. Higgins called at my office, and wished me, if I felt any interest in it, to superintend the treatment and watch the progress.

Struck with so much change without any external macerations or anointings, I was glad to watch it still further.

Soon after commencing the treatment he frequently felt a warm tingling sensation in the skin ; and while exfoliation of scales went on, the production of them gradually ceased.

2. REPORT FROM S. HALL.

SIR :—I think that I am in duty bound to bear testimony to the virtues of *berberis aquifolium*, having received almost miraculous benefits from it in psoriasis. I have been troubled for the past six or seven years, and believe there could not be found in Michigan a finer developed specimen than mine, being completely covered from head to foot with those charming incrustations.

The only ill effect that I felt was my inability to work at my trade as a machinist. It never was irritable, but the fact of its being there almost drove me crazy. I went to England and attended the Royal Hospital for Skin Diseases about three months. The chief thing administered was Fowler's Solution, and in about six months I got better. Was well for about one year, when again it made its appearance in a worse form, and I was induced to try *berberis aquifolium*. I had an 8-ounce bottle, and at the outset I experienced a tingling sensation of the skin, which lasted for some time, and then found the exfoliation gradually getting less and less. After taking the *berberis* about six weeks in teaspoonful doses four times a day, it ceased to form, and the red discoloration gradually disappeared. There is only one obstinate patch about the size of a two-cent piece on my knee, but that does not form any scales, and gives me no inconvenience. If you think proper you can publish this statement. I can produce half a dozen medical gentlemen who saw me before taking the *berberis*, and I was indeed a picture of misery. I never deviated from my regular course of diet, and cannot ascribe the cure to anything else but *berberis*.

3. Report from F. A. Manderville, M.D., Rochester, N. Y. In March last I was called upon to treat a case of *eczema capitis* of several years' standing, the patient a lady æt. about 50 years.

I tried various remedies with only partial success. Several weeks ago I commenced giving her fluid extract of *berberis aquifolium* in 15-drop doses three times a day, and using oxide of zinc locally. In a few days improvement commenced, and has continued steadily up to the present time.

I would say that oxide of zinc had constituted a part of the treatment previous to the use of *berberis aquifolium*, so that the present improvement cannot be attributed to the use of that agent.

4. Report from B. B. Grover, M.D., Rushford, New York. I have derived so much benefit from *berberis aquifolium* that I wish to publish it to the profession. As a tonic and alterative the drug has no rival. To give a little idea of its virtue I will report a case which is sufficient to convince the most sceptical. March 15, 1880, Mrs. B., æt. 62, suffering from salt rheum and erysipelatous eruption of thirty years' standing. Her limbs to knee, and arms to elbow were covered with an eruption interrupted only by deep fissures. Appetite poor and bowels so constipated as to necessitate from twenty to forty of Ayers' pills to produce an evacuation.

As she had exhausted the pharmacopœia in vain I had but little hope of relieving her, and certainly no idea of a cure. I however, placed her on *berberis aquifolium*, commencing with 20 drop doses three times daily. Externally I applied ung. *zinci oxidi*, with chloral hydrate. In two weeks the eruption had entirely disappeared from her limbs, the appetite was good and the bowels regular. The eruption upon her arms was fading and I increased the *berberis* to 25 drops 3 time a day, and continued the ointment as before. From week to week the eruption steadily disappeared until May 1st, when she discontinued the medicine. On the 10th had a recurrence of eruption but which was slight, and disappeared on resuming the *berberis*. The medicine at this date (Sept. 7) has been discontinued for some time and the patient is well for the first time in 30 years.

I have also used *berberis aquifolium* in *scrofula* with happy results, enlarged lymphatic glands disappearing very readily under its use.

5. Report from A. H. Henetson, M.D., St. Clairsville, Ohio. During my charge in our country infirmary I had occasion to test *berberis aquifolium* in several cases of long standing syphilis. The results were such as to cause me, in justice to the drug, to report them :

One case, that of a young woman who had been an inmate of the institution almost two years when I took charge, and who had been under the best of medical treatment, without improvement, all through her stay in the house. She was covered with syphilitic

rupia, and was so fearfully disfigured and repulsive that she often wished herself dead.

In as much as she had faithfully tried all the old remedies, and as I had experienced some evidence of the power berberis has in such cases, I put her on twenty drop doses of the fluid extract and applied iodoform in cosmoline locally. Her improvement commenced almost immediately, and she was, apparently, cured when I gave up the institution at the end of my second term.

A second case: An Irishman with tertiary syphilis; the lower end of tibia was so badly necrosed as to render it necessary for me to remove it. I placed him upon berberis aquifolium and he recovered rapidly. Several nodes upon the arm, head, and other parts rapidly disappeared.

6. Report from R. S. Seward, M.D., Chicago, Ill. During the past year, having considerable venereal practice, I have used berberis aquifolium for syphilis, almost to the exclusion of other internal remedies, with very gratifying results. Occasionally I have combined 5 gr. doses of iodide of potassium, and in nearly 100 cases have had the pleasure of seeing the disease disappear more promptly in every case than it ever did when I relied upon the old forms of treatment.

7. Report from J. F. Hammond, M.D. While I kept my office at the "live" drug store in this city, two years since, a man of very decided scrofulous diathesis presented himself for treatment. Another revealed the fact that he had true Hunterian chancre, and that the terrible disease had made successful inroads upon his system. Another physician stooping at the same store, was invited to view the case; and, while looking at it, fully agreeing with me that the case was hard chancre, and took the occasion to remark: "The old gentleman is about as good as dead. Don't think you can cure him, do you? As soon as the old man obtained his supply of medicine and was gone away, the doctor again said, addressing his remarks to myself. "That old gentleman (referring to the patient) can live but a short time without relief. I would put him on iodide of potassium and protiodide of mercury. If you fail to do that he will die, and that before a great while."

At the time the man's appearance was deplorable. He had contracted syphilis two months before, and although he had the most active treatment, presented the pitiable condition that brought my friend upon the floor. The old man looked haggard and careworn; while every visible part of the face and hands was covered with deep, unsightly syphilitic ulcers. The chancres on the prepuce and glans penis had never healed; really, instead of healing, had sloughed under the terrible ordeal of an occasional "bumming," until there was danger of losing the whole organ.

I determined to test the *berberis aquifolium* in this case; that is, I determined to make it the basis of my prescription:

R Tinct. *berberis aquifol.*, f drs. 6, Liq. potass. arsenitis, f drs. 4, Potassii iodidi, oz. 1, Syrup aurantii cort, Tinct cardamom comp. aa drs. 2, Tinct. *phytolaccæ* da., q. s. ad f oz. 8, M. Ft. solution.

Sig. Dessertspoonful just after meals, and at bedtime, observing to eat a lunch just before taking last dose.

R Quiniæ sul., Vallet's mass. aa grs. 11, Ext. *nucis vom.*, *Stillingiæ*, aa grs. 5, M. Ft. pil. No. 40, Sig. Two just before eating.

The swollen, ulcerating mass, once the human penis, next claimed my attention.

I ordered the following wash, and in forty-eight hours had the satisfaction of noting the most happy and decided improvement:

R Tr. *baptisiæ*, f oz. ss., *Morphiæ* sul., grs. 10, *Acidi nitrici* dil., f oz. 2, *Aquæ* dest., q. s. ad f oz. 8, M. Ft. sol.

Sig. Use as a wash or local application, after cleansing with castile soap and tepid water, twice daily. As soon as sponged with the medicine and thoroughly dried, apply the following powder:

R *Bismuthi subnit.*, oz. j.

Sig. Fill the ulcers, and cover the sore and excoriated parts.

As stated above the improvement was so great in forty-eight hours that the old gentleman's confidence was fully secured.

He reported again in five days, and, to my surprise, was able to resume his usual employment.

By referring to my case book I find he was under treatment, or rather observation, four months. Finally, I could prevail on him to take treatment no longer, and he was dismissed with instructions to report if anything should go wrong. I have met the old gentleman occasionally since, and he has repeatedly assured me that he has not seen a single symptom of the disease since about the twenty-second day of my treatment, and always affirms that he is a stouter man than ever before.

The above detailed case is one of nearly one hundred treated that year, and furnishes a typical case, with the usual results.

DISEASES OF THE SKIN.

In eczema, especially eczema genitalis, the berberis aquifolium, in combination with iron and arsenic, is specific. If the skin is constantly moist, it is better to give tincture rumex crispus, stillingia, and berberis aquifolium, in combination with potassii iodidi :

R Tr. berberis aquifol, Tr. rumicis cris. ää f oz. $3\frac{1}{2}$, Tr. stillingiæ syl., f oz. 2, Potassii iodidi, oz. 1, M. Ft. solution.

Sig. Full teaspoonful after meals; diluted with water.

If the eczematous inflammation is inclined to be dry, scaly, and the skin deeply cracked, we have in the berberis aquifolium and Fowler's solution of arsenic, the powerful remedy. Both should be given in large, often repeated doses, and, if there is anæmia, alternate with Vallet's mass, or tincture ferri chloridi.

Of course we must use a local application, and I have found nothing superior to lead, zinc, and morphia :

R Plumbi acetatis, drs. 2, Zinci acetatis, grs. 20, Morphiæ acetatis, grs. 10, Glycerinæ, f oz. ss., Aquæ rosæ, q. s. ad. f oz. 8, M. Ft. solution.

Sig. Sponge the inflamed parts once in four hours, and as soon as the parts are dry, powder them well with subnitrate of bismuth.

CHRONIC HEPATITIS.

There are hundreds of cases all over the country known as liver disease. Such patients usually present a morbid train of

symptoms, resembling or identical with, symptoms of chronic hepatitis, as laid down by Flint, Wood, Tanner, and other standard authors. And, after going the rounds of the profession, all the time getting worse, they at last fall into the hands of the vendors of nostrums, Indian root doctors, etc. Usually the patient is dyspeptic, or at least says he is. His bowels are constipated; he is dull and unhappy, at times tired and wearied with life. He belches his food up, or, may be, vomits it up. He suffers, after eating a full meal, with a heavy, oppressed weight in the stomach; has palpitation; feels indisposed; has frontal headache, pain in his shoulder and down his arm; his knees are weak; he totters as he walks. Often he has forebodings of death; frightful dreams disturb his sleep; and even his waking hours are disturbed with thoughts of an early death. At one time he avers he has heart disease; at another, softening of the brain; and again, disease of the liver. One day he eats voraciously, next day the sight of food nauseates him. His urine is red, scalding and loaded with deposits. His tongue is usually rather large, and covered with a dirty yellowish fur. Often the body of the tongue is red, looking much like a piece of stale beef—thickly coated at the root, and rather pointed, and reddish at the tip. The patient wants acids, such as vinegar, pickles, sour or acid fruit, etc. Nine out of ten of these cases will yield to the *berberis aquifolium*, and *euonymus atro.*, in equal quantities. I don't know why these two remedies act so well together; I know they do, and guarantee the profession they will be surprised at the results in cases of the kind mentioned.

8. Report from J. P. Baird, M.D., Moscow, Tenn. Having tested *berberis aquifolium* in two severe cases of syphilis, I have concluded to make report of same:

Case 1st. H. D., æt. about 20, came to me in July, 1880, suffering with all or most all of the distressing symptoms of syphilis. I prescribed:

R Syr. *stillingiæ* comp. Oj., Potas. iodidi oz. j.

M. Sig. Shake well before using and take a teaspoonful three times a day. After using all of this prescription he came back to me only slightly improved. I duplicated the mixture, and after

having taken it also he returned in about a month so little improved that I concluded to change treatment. Ordered.

R Berberis aquifolium fluidi oz. 2, Pot. iodidi drs. 6, Syr. simplicis oz. 6.

M. Sig. Shake well before using and take a a teaspoonful three times a day. The taking of the last prescription was followed by improvement which ended in complete cure.

Case 2d. D. W., æt. about 22, came to me about the middle of November, 1880, suffering with a severe attack of syphilis, secondary stage. Ordered :

R Syr. stillingie comp. Oj. Pot. iodidi oz. ̄j.

M. Sig. Shake well before using and take a teaspoonful three times daily. After taking this he came back to me unimproved. I then ordered the berberis aquifolium and potassium iodide as in first case, and after using first supply returned saying he was much better, and wished more of the last mixture as it made him feel so much stronger and kept him from aching so badly. After using this supply he returned in March, 1881, as I had ordered him, to have the prescription renewed or not, as I thought best, stating that so far as he knew he was as well as he ever was in his life. I renewed the prescription, however, for fear of relapse, and the result is an apparent radical cure.

I, of course, used auxiliary remedies, such as "black wash" for ulcers, tinc. iodine for painting inguinal tumors, anodyne liniments for pains in joints and bones, but I must say that I am entirely satisfied that the berberis was valuable in both of these cases.

9. Report from D. B. Rees, Des Moines, Iowa. I have had a very considerable experience in the use of berberis aquifolium in the treatment of the secondary and tertiary manifestations of syphilis, in salt rheum, and in scaly affections of the skin, and as a result am able to report that it is very valuable drug in these affections. So great has been my success in the treatment of syphilis, that I confidently expect to cure each new case when undertaking its treatment. It, however, requires patience and perseverance in some cases, but by exercising both, success is almost certain. I give from 15 to 20 drops in syrup and water 3 times a day.

10. Report from I. B. Cargen, M.D., Neilsonville, Wis. If it would be acceptable or of any benefit to you or to the profession, I would like to say something in favor of some of the new preparations. *Berberis aquifolium*: Had a case of herpes zoster, in a man of about 50 years of age. As this case was a severe one, and knowing no remedies that would give relief, I concluded to treat the case as one of scrofulous origin, so I prescribed:

R *Berberis aquifolii*, oz. 2, Potassii iodidi, drs. $2\frac{1}{2}$., Elix. simplicis, oz. 2, M. Sig. Teaspoonful four times daily.

This gave decided relief, and after taking the second prescription was entirely relieved and able to return to his work in a logging camp.

11. Report from John A. Heming, M.D., Cleveland, Ohio. I would, with the balance of the testimony call the attention of the profession to this most excellent remedy.

I had case of a girl æt. 12 years who had *herpes zoster* in a severe form. I prescribed:

R *Berberis aquifolium*, 4 oz., Iodide potassium, 4 drs., Water, 3 oz.

M. S. Dose, teaspoonful 4 times per day. This single prescription cured the disease in three weeks.

I have used it in other diseases wherever an alterative was indicated with splendid results. I would think it an excellent remedy in scrofula, herpes and any form of vesiculæ.

Preparations and Doses.—Powdered Bark 10 to 30 grs.

Fl. Ext. 10 to 30 mins.

Solid. Ext. 2 to 6 grs.

Tr. (1 to 5 Pf. Sp.) 5 to 60 mins.

Syrup (1 of fl. ext. to 7 of syrup) 1 to 2 fl. drms.

Pil. *Berberis*. Co (ext. berb. 2 grs., ext. cascara sagr. 1 gr.) 1 to 3 pills.

BERBERIS VULGARIS.

Syn.--*Barberry*. The Indian species is called *Berberis Lyceum*, *Indian Lyceum*. [The stem is known as *Dáruhalad* (Guj.); the extract, as *Rusota*, *Rasvanti* (Hind. and Bom.)]

Parts used.—The Bark and Leaves.

N. O.—*Berberidaceæ*.

Habitat.—The temperate parts of Europe, Asia and America; very common in the mountainous parts of Northern India, especially Nepaul.

Characters.—A bush often spiny, with yellow flowers, from 4 to 6 feet high, but which, in Italy, sometimes becoming as large as a plum-tree. It is a very ornamental plant especially when covered with fruits. The berries, which resemble raisins, are of an oval shape, generally of a bright-red colour, but sometimes whitish yellow, or almost black; they are very acid, from their containing *oxalic acid*. The root-bark is smooth and of a dull grey colour and when cut into, the cut portion is yellow. It is made up of a central ring with numerous radiating wedge-like projections, which are made of fibrous walls. It as well as the stem are very astringent, yielding a bright yellow dye. Of the numerous species of *Berberis* which are cultivated in Britain, as ornamental shrubs, the finest is undoubtedly *Berberis Aristata* (*Indian or Bristle-leaved Barberry*); it is a hardy evergreen, producing excellent fruit.

BERBERINA OR BERBERIA.

It is an active principle or alkaloid of *Berberis Vulgaris* and other species belonging to the same order *Berberideæ*, viz., *B. Aquifolium*, *B. Aristata*, *B. Repens* &c. It is also contained in the roots of *Calumba*, *Coptis Trifolia*, and *Hydrastis*. Hence it requires a separate description as follows:—

This alkaloidal base was first discovered by Buchner and Herberger in the common barberry (*Berberis Vulgaris*). It occurs in fine stellated prisms of a yellow colour, inodorous, having a strong bitter taste, without any reaction on test-paper. When heated to 212° it acquires a red colour, but becomes again yellow on cooling. At a much higher temperature it is decomposed, and gives off yellow

vapours. It is very soluble in alcohol, but is precipitated from its alcoholic solution by water. The alcoholic solution is green by reflected light. At 60° it is soluble in 100 parts of water, forming a clear yellow solution. It is destroyed by the concentrated sulphuric or nitric acid. It forms saline combinations, more or less soluble, with the mineral acids. The roots of *Calumba*, *Barberry* and *Hydrastis*, owe their yellow colour to salts of berberia. *Berberine* should not be confounded with *beberia* which is officinal and which is obtained from *Bebeeru Bark*. *Berberinæ phosphas* is the most soluble salt of berberine.

Therapeutical actions.—The bark and the stem possess sub-astringent, refrigerant, antiperiodic, tonic, antiseptic and diaphoretic properties and are indicated in menorrhagia, bilious complaints, diarrhœa, dysentery, and jaundice. The berries are cooling and acid, having also an astringent, tonic and cholagogue properties; their juice is therefore useful for hemorrhages, bilious and malignant fevers, wherein it abates the heat, raises the strength, quenches the thirst and prevents putrefaction. The extract, under the name of *Rusot* or *Rasvanti* (Guj.), has been employed in India as a local application in ophthalmia and chemosed conjunctiva; mixed with honey or glycerine, it forms an effective local application for aphthous sore mouth and over abraded and fissured skin; also useful externally over glandular swellings and painful parts. The root and the stem are used by the dyers in the preparation of a yellow dye.

The action of berberine is simply as a bitter tonic and antiperiodic in intermittent fevers.

Preparations and Doses.—Powdered bark, 10 to 20 grs.

Fl. Ext., 20 to 60 mins.

Berberinæ Phosphas, 1 to 5 grs.

BETA-NAPHTHOL.

Characters.—A derivative of naphthaline, a hydrocarbon found in large quantities in coal tar, and belonging to the aromatic series. In a state of purity it occurs in silver crystalline scales which can be

easily powdered. It is inodorous and pungent to the taste in a state of purity. When impure it has a faint odour of storax. It is soluble in alcohol, ether, fixed oils, benzol and chloroform ; it is slightly soluble in vaseline ; it is but slightly soluble in water, viz., 520 parts of water at 60° F., and in 75 parts of boiling water.

Physiological actions.—Beta-naphthol given internally produces great warmth, in the epigastric region, which passes away in a short time, but leaves the subject, with slight vertigo, buzzing in the ears, and other symptoms of cerebral hyperæmia. The alvine evacuations are softened and of a mushy consistence, changed to a clay colour. When applied to the integument or to the mucous membrane, it produces a stimulating and sedative action.

Therapeutics.—It is a powerful antiseptic and germicide, a small quantity ($\frac{1}{4}$ per cent.) will prevent urine from decomposing for a considerable length of time viz., upwards of six months. Meat kept immersed in a solution of one part of naphthol to 620 parts of water, remains sweet and fresh like wine. It removes the odour of putrefaction from the hands and clothes and is an active and powerful parasiticide. Evaporated by heat it is useful as a deodorant in sick rooms, hospitals, and dissecting rooms. From continued observations, beta-naphthol has been proved to be one of the best and most valuable non-poisonous antiseptic agents at our disposal. In pharyngitis, chronic nasal catarrh, hay asthma, whooping cough and chronic bronchitis, its inhalations are of much utility, destroying minute organisms should any exist. In gastric disorders, especially in nausea and vomiting from an irritable condition of the stomach nerves, much benefit follows from beta-naphthol. Good results have also been produced by it in intestinal catarrh depending upon septic changes. (Drs. J. V. Shoemaker, Comby, Bouchard). Prof. Dujardin-Beaumetz has used beta-naphthol with much success in treating secondary fermentation in the stomach and intestines in cases of severe flatulent dyspepsia ; also in chronic cases of stomach dilatation from analogous causes. The following combination he is said to employ. Beta-naphthol, salicylate of bismuth, and calcined magnesia, aa 10 grms. (150 grs.) ; divide in thirty cachets ; one before each of the two principal meals. In some cases of constipation depending upon digestive disturbance, it acts well in from $\frac{1}{2}$ to 3 grain doses

three to four times a day. The hard, lumpy evacuations often attendant upon such cases become softened, of a mushy consistence, and may, change to a clay color.

On account of its antiseptic effect, is of great value, and may be employed in diphtheria, erysipelas, malarial, scarlet, and in typhoid fevers. Drs. J. Mitchell Bruce and J. V. Shoemaker report its efficiency in enteric fever deducing the following conclusions :

1. That the production of intestinal antiseptics is a rational mode of treatment of enteric fever, and that beta-naphthol is a safe and tolerably efficient agent for this end.

2. That by its use in the cases referred to, the duration of the disease is shortened, and the intensity of the symptoms directly arising from profound disturbance in the alimentary canal is lessened.

3. That the tendency to the occurrence of splenic enlargement, albuminuria, and of secondary complications, such as boils, abscesses, &c., of purulent infective origin, is diminished.

4. That complete convalescence is more speedily and satisfactorily attained, and that there is less risk of propagation of the disease to others.

Delafield also recognizes the utility of beta-naphthol, advises it in the treatment of diarrhoea in typhoid fever in infants, in combination with salicylate of bismuth if diarrhoea be profuse, or with salicylate of magnesium, if there be tendency to constipation.

Local applications.—Prof. J. L. Reverdin has employed beta-naphthol gauze and bandages (10 to 15 per cent.) in 38 operations, consisting of tumour extirpation, amputations, laparotomy and radical operations for hydrocele ; in 23 cases primary union was obtained without a trace of suppuration, even at the opening for drainage and in 15 there was delayed primary union. Seborrhoea and furuncles are much benefitted by the application of a beta-naphthol solution, ointment or powder. It is especially valuable for its power to kill the itch-mite in scabies, lessening at the same time all inflammation superinduced by the parasite and relieving irritation &c., thus taking the place, to a large extent, of sulphur and mercurial preparations. It is also useful for all animal parasites getting on and in the skin. It destroys pediculi on

the skin, and relieves the irritation of the integument from the bites of lice, danfleas, bed-bugs, mosquitoes, and other parasites that get upon the skin. In chronic eczema, in the form of an ointment, 10 to 30 grs. to the ounce of any fatty substance or incorporated with zinc or lead ointment, it acts more decidedly in the lessening the infiltration and itching that may be present; the same ointment is useful in pustular eczema; and the plaster of the strength of 10 to 20 per cent. is serviceable in the fissured form of eczema on the palms of the hand and soles of the feet. Psoriasis and acne are likewise benefited with similar applications. In chronic ulcers, especially when the edges are indurated, either an ointment or a plaster of beta-naphthol often proves most curative from its combined stimulating and antiseptic action upon the parts. With some astringent powder when dusted over the surface of a chancre or chancroids, is often most curative as in the following combination.

R Beta-naphthol grs. 10, Bism. sabnitr. oz. 1; dust over the surface.

It is often of great advantage in the treatment of the various forms of syphilis of the integument, to add to the powder, ointment, or solution used, a small per cent. of beta-naphthol, especially for its valuable antiseptic effect upon the diseased surface. The fœtor so often present in the various forms of cancer, lupus vulgaris, and other ulcerating affections may be relieved by the addition of a small quantity of beta-naphthol to the dressing employed. Hyperidrosis and bromidrosis, excessive and odorous secretion, occurring on various parts of the body particularly in the axilla, the inguinal regions, and the palms of the hands and the soles of the feet are usually benefited or entirely removed by a plaster or ointment of beta-naphthol Chronic otorrhœa may be successfully treated by an application of beta-naphthol in glycerine or water. Purulent ophthalmia is often controlled or cured by an application of a solution of beta-naphthol. M. Velude resorts to wet compresses of beta-naphthol, the solution being 1 to 2500 as follows.

R Aquæ Distil., Parts 1000; Beta-naphthol, Part. 25; Alcohol, Parts 25.

This antiseptic solution reduces the œdema and swelling of the palpebral folds and integument. In purulent ophthalmia M. M. Budin

and Vignal, of Paris have likewise tested beta-naphthol, and have recommended it as being especially efficacious in this affection, the solution used by them being as follows. Distilled water, 1000 grms. beta-naphthol .4 grms. Others have used it with similar benefit in ophthalmia nea notorum. Beta-naphthol, Paul Delagemere claims, is one of the most valuable remedies in the treatment of granular conjunctivitis and trachoma. It is one of the most suitable and advantageous remedies to use as a dentrifice either alone or in conjunction with bismuth, chalk or soap. In mercurial salivation it forms a most beneficial application, used as follows.

R Beta-naphthol, dr. $\frac{1}{2}$; Glycerine—ozs. 4; Distilled witch-hazel, ozs. 2; M. Use as a gargle.

This same prescription is also valuable for many other throat affections, especially those of a chronic nature. Follicular pharyngitis, elongated uvula, relaxed palate, and chronic catarrh of the fauces may be much benefited by inhalations or the employment of gargles containing beta-naphthol. In the form of solution is much useful in abscesses and in vulvitis in children. Indurated glands are much benefited and often removed by injections into them of a beta-naphthol solution. Vaginitis and purulent and offensive discharges from the vagina may be controlled or completely removed by the employment of injections containing beta-naphthol. The same remedy is useful in gonorrhœa and in gleet owing to its antiseptic action, as follows :

R Beta-naphthol 2 to 10 grs., Glycerine oz. 1, Aquæ, 1 to 3 ozs. M.

In chronic psoriasis the use of a 5 to 10 per cent. ointment is useful. Added to all ointments in the proportion of 1 to 10 grs. to an ounce of the ointment, it preserves them from decomposition and produces an antiseptic action on the parts and exudations therefrom.

Dose 3 to 5 grs.

BETA-NAPHTHOL CAMPHOR.

Characters and preparation.—A colourless syrupy liquid formed of a mixture of one part of naphthol with two parts of camphor.

Therapeutical properties.—It possesses both local stimulating and somewhat sedative action upon the integument to which it is applied.

It is recommended as less poisonous than carbolic acid. Incorporated with either lard, simple or zinc ointment, in the proportion of 5 to 20 grs. of the beta-naphthol-camphor to an ounce of the fatty vehicle, forms a most valuable antiseptic and combination for many cutaneous diseases. It is useful in excoriations, wounds and ulcerations, as well as an application to the throat in diphtheria. Dr. Perier has also used beta-naphthol camphor with success in ulcers, tubercular laryngitis, and upon the membrane of diphtheria. Dr. Fernet has reported excellent results by its use in tubercular ulcerations, boils, ulcerations of the skin, of the mouth, and diphtheria.

BETOL.

Syn.—Salicylate of B.-Naphthol Ether.

Characters.—Small tasteless odourless crystals soluble in alcohol, insoluble in water.

Properties.—It is useful in rheumatism, cystitis and intestinal catarrh. Bougies made with one part of Betol and 4 parts of cocoa butter have proved very beneficial in gonorrhœa.

Dose.—5 to 8 grs. in powders, pills or milk.

BETA VULGARIS.

Syn.—Garden Beet ; common Beet.

Part employed.—The Root.

N. O.—Chenopodiaceæ.

Habitat.—Europe, North of Africa, and Western parts of Asia.

Characters.—The plant is characterized by a five-cleft perianth, five stamens inserted on a fleshy ring surrounding the ovary, and the fruit adhering to the calyx, and collected in clusters of two or three. The roots are sweet, tendering, tapering and dark-red in colour.

History and Uses.—*B. Vulgaris*, the common beet, grows along the whole coast of the Mediterranean, and is cultivated in the European gardens for its sweet, tender and dark-red root, which is chiefly used in England as a salad, but in France and Germany as a common table vegetable. It is cultivated on a large scale in many parts of the world as a source of sugar ; and it is believed that at the present time about 400,000,000 lbs. of beetroot sugar are annually produced in Europe.

The beet used for this purpose is a variety of *B. Vulgaris*, and is known as the sugar-beet. The white beet cultivated in gardens for the sake of its leaves, which are used as a substitute for spinach, is also another variety of *Beta*.

Therapeutical properties.—The beets owe their medicinal activity to an active principle termed *betin*, which acts on the vitiated secretions of stomach and bowels, and is *resolvent and emmenagogue*. In doses of 3 grs. repeated thrice a day, it acts as an active emmenagogue.

A strong infusion or decoction of common beet root is an excellent mild aperient in cases of habitual constipation of atonic character and hemorrhoids. It is taken in doses of half to one tumblerful at bedtime or early morning an hour before breakfast. It does not cause abdominal pain, rumbling or griping, nor does it create any tendency to consecutive constipation.

Dose.—*Betin* 2 to 4 grs.

BHAWCHEE.

Syn.—*Psoralia Corylifolia*; *Bavachi* (Bom.); *Babachi* (Guj.) *Vakuchi* (Sans.); *Karpo-karishi* (Tam.)

Part employed.—*The Seeds.*

N. O.—*Leguminosæ.*

Habitat.—*India.*

Characters.—The plant is a common weed in the Deccan and Bombay. The seeds are kidney shaped, flat, unctuous to the touch, dark brown in colour and about 2 to $2\frac{1}{2}$ lines in length; they are generally rough, having an oily and sticky epidermis which can be easily separated from the testa. They have a faintly aromatic odour and somewhat pungent and bitter taste.

Therapeutics.—The seeds possess laxative, alterative, anthelmintic and stimulant properties. As a laxative they are useful in bilious affections; as an alterative they are employed both externally and internally in leprosy and chronic skin diseases depending on vitiated state of the blood. In southern India they are used as a stomachic and deobstruent and are prescribed in lepra and inveterate cutaneous affections. They may be given beneficially with arsenic internally, and also

applied externally in cases of leucoderma. Several species of *Psoralea* have been used medicinally in America, as mild stimulating and tonic nervines.

The oleo-resinous extract, obtained by well powdering the seeds, is mixed into a paste with simple ointment, vaseline or milk, and is locally applied on the leucodermal spots (white patches). After application for some days the white patches appear to become red or vascular; occasionally some small vesicles or pimples appear, and if these be allowed to remain undisturbed, they dry up, leaving a dark spot of pigmentary matter, which forms as it were a nucleus. From this point as well as from the margin of the patch, pigmentary matters gradually develop, which ultimately coalesce with each other, and thus the whole patch disappears. It is also remarkable that the appearance of fresh patches is arrested by its application (Dr. Kanny Loll Dey).

The common mode of application with natives in Bombay, is to soak the powdered seeds in the oil of *pongamia glabra* (*Karanja-oil*) for sometime and the whole is expressed and the medicated oil thus obtained is applied on the leucodermal spots, lepra and such other skin affections.

Preparations and Doses.—Seeds 5 to 15 grs.

Tr. $\frac{1}{2}$ to 2 drs.

BISMUTH SALTS AND COMBINATIONS.

The preparations of bismuth are very useful as local applications in inflammations of mucous membranes. They are distinctly sedative and slightly astringent and may be freely used in the most acute stages of mucous inflammations. In beginning of an acute nasal catarrh, bismuth may be blown freely into the nose by means of quill, often with great relief. In gonorrhœa, 20 to 40 grs. suspended by mucilage is advantageously injected into the urethra every 2 or 3 hours. They are valuable in all gastric and intestinal disorders; in the former cases they are given half an hour before meals or soon after, and in the latter 2 hours after meals. *vide Digestives Part II.*

BISMUTH OLEAS.

Preparation.—Cryst. nitrate of bismuth 280 grs. ; dissolve cold in glycerine 4 ozs. by weight ; add slowly solution of oleate of sodium, 20 ozs. ; warm gently, wash by decantation, collect and dry.

Uses.—It is a reliable application in pustular eruptions and hyperæmia of the skin &c.

BISMUTH OXYIODIDUM.

Syn.—*Bismuth Subiodidum.*

Characters.—Is a brownish red, extremely fine, light amorphous powder without taste or smell, of neutral reaction and insoluble in water, alcohol or ether.

Properties.—It possesses the properties of iodoform without its unpleasant odour. It is of particular value in cases of suppurating sores, ulcerations &c. Has been most successfully injected in cases of gonorrhœa (1 suspended in 100 water), also as an ointment in ulceration of the rectum, and internally in doses of 5 to 10 grs. for ulcers in the stomach, typhoid fever &c.

Dose.—5 to 10 grs.

BISMUTH SALICYLAS.

Characters.—A white or pinkish powder, insoluble in water, alcohol and glycerine.

Properties.—Possesses both an astringent and antifermentative properties and hence indicated in some forms of diarrhœa, as those due to typhoid fever, pulmonary and intestinal tuberculosis and diarrhœa complicating severe gastric dilatation.

Dose.—5 to 20 grs.

Syn.—*Rubus Villosus*, Ait ; *R. Trivialis*, Michx and *R. Canadensis*, Linn.

Parts employed.—*The Root-bark and Berries.*

N. O.—*Rosaceæ.*

Habitat.—*United States ; also found in other cold and temperate climates.*

Characters.—The bark of the root occurs in thin, tough, flexible bands, outer surface blackish or blackish-gray, inner surface pale brownish, sometimes with strips of whitish, tasteless wood adhering; inodorous; strongly astringent, somewhat bitter.

Therapeutics.—It possesses astringent, tonic and demulcent properties. The decoction of the root bark, or a jam of the fruits is excellent in *dysentery, chronic diarrhœa, cholera infantum, or summer complaint and passive hemorrhage from stomach &c.*

Preparations and Doses.—Root-bark 20 to 30 grs.

Fl. Ext. 15 to 60 mins.

Solid Ext. 3 to 10 grs.

BOLDOA FRAGRANS.

Syn.—*Peumus Boldus*; *Molina Boldo*.

Part employed.—*The Leaves*.

O. O. *Monimiaceæ*.

Habit.—*Chili and Bolivia*.

Characters.—Large oval shaped leaves, broader at the base than at the apex, from 1 to 1½ inches in length; of an ashy or grayish colour when dry. Odour aromatic and agreeable; taste slightly bitter yet agreeable and spearmint-like.

Physiological actions.—In small doses it is a mild tonic and stimulant to the mucous membranes, especially of the stomach, intestines, bladder and urethra. In large doses it produces emesis and acts as an irritant to the bowels and nasal mucous membrane.

Therapeutical actions.—The activity of the leaves is due to a glucoside "*Boldin or Boldoin*," and a volatile oil which exists in the leaves in the proportion of 2 per cent. It possesses a stimulant alterative anthelmintic, and mild antiseptic and tonic properties. It is especially valuable as a stimulant to digestion in atonic dyspepsia. It is indicated in blenorragia, gonorrhœa, chronic catarrh and atony of the bladder. In France it has been employed especially in cases where there had existed chronic hepatic torpor, hypertrophy and cirrhosis of the liver, and in cases of atony of various organs where quinine could not be tolerated. It is also useful as an alterative in syphilis in conjunction with other remedies. The powder of the dry leaves acts as a sternutatory.

BOLDIN OR BOLDOIN.

Boldin, the glucoside present in the Boldo leaves to the extent of from 2·47 to 3·20 per cent., is recommended by Juranville as an excellent and especially safe hypnotic, which is far better tolerated by patients, as a rule, than chloral hydrate, cannabis, or opium preparations. Even when as much as from 2 to 5 grs. of Boldin were daily administered no ill effects followed. Sleep is often quickly induced by from 1·5 to 2·5 grs. of the principle. It is also said to possess local anæsthetic properties like cocaine.

Preparations and Doses.—Leaves, 15 to 60 grs.

Fl. Ext. 1 to 4 mins., gradually increased

Tr. (1 to 8 Pf. Sp.) 10 to 30 mins.

Vine (1 oz. leaves to 20 ozs. Malaga wine) 2 to 8 drs. (*Excellent for dyspeptic patients and those suffering from chronic hepatic complaints.*)

Boldin 1 to 4 grs. (45 to 75 grs. daily may be safely given).

BONDUCELLA GUILANDINA (BONDUC).

Syn.—*Cæsalpinia Bonducella*; *The Nicker Tree* (Eng.); *Kachaka*, *Kakachia* (Guj. and Bom.); *Sagurghota* (Mah.); *Khaya-i-Iblis* (*Devil's testicles. Persian*).

Parts employed.—The Kernel of the seeds (*nuts*) and Leaves.

N. O. Leguminosæ; *Sub-ord.*—*Cæsalpinieæ*.

Habitat.—Tropical parts of Asia, America and Africa.

Characters.—A shrub having prickly stems, pinnate and prickly leaves, small, glabrous and dark green coloured leaflets, and yellow flowers. The seeds, called *bonduc nuts* (Eng.), are globular, smooth, very hard, of a dull gray colour and from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter. The shell is very thick and bony. The cotyledon (kernel) is dull white, hard and wrinkled, with a bitter taste and peculiar odour of its own; it consists of mucilage, starch, albumen, oil, and tannin.

Therapeutics.—The kernel of the seeds possesses antiperiodic, anthelmintic, tonic and discutient properties.

The natives employ the kernel of the seeds with powdered cloves in relieving the pain of colic and vomiting; with *Butea frondosa* (Paláša pápado. Guj.) and flowering tops of *Artemisia Maritima* (Kiramani ajamo. Guj.; wormseed Eng.), they administer to children for intestinal worms. The kernels roasted and powdered are employed internally, and also applied externally, spread upon castor-oil leaves, in cases of hydrocele. Recently the powder of the kernel mixed with an equal part of powdered black pepper, has been employed in Europe and America as a tonic and antiperiodic in intermittent fevers, and particularly in *quartan ague*, in which it is considered a *specific* in doses of 15 to 30 grs. The leaves of the fresh plant possess similar properties.

Recently an active principle has been discovered to which the name of *guiladina* has been given.

Preparations and Doses.—Kernel 10 to 15 grs.

PULV. BODUCELLÆ COMP.—Composed of Bonduc and Black pepper in equal parts. *Dose.*—15 to 30 grs.

BORAX.

Syn.—*Sodæ Biboras.*

Besides the already known antiseptic, astringent, and emmenagogue properties of borax, there are few special ones, both in the European and native practice, as follows :—

1. Borax has been proved to be a satisfactory remedy in cases of *epilepsy*, when bromides are not well borne or have taken for a time without any effect. (Fulson).

Dr. Gowers has found borax useful in some cases of inveterate epilepsy in which bromide has no influence; *but that the influence of borax is not comparable to that of bromides in cases in which this is effective.* He says that the administration of the drug may be continued for years in doses of 15 to 30 grs. thrice a day after meals, without any ill effects beyond a possible eruption of psoriasis amenable to arsenic. Gastro-intestinal disturbance usually occurs at the beginning of the treatment, but diminution of the dose is said to be all that is necessary to correct this. For further particulars *vide* “*clinical reports*” as mentioned below.

2. A few grains of borax or boric acid will sometimes remove an *obstinate-cough in a young child*, and especially if this be associated with an irritable condition of the fauces or pharynx (Judson).
3. Glycerine of borax in 10 to 20 drop doses is very beneficial in the treatment of *summer diarrhoea of infants*; it checks the griping pains, renders sweet the offensive motions, and stops the diarrhoea. (Dr. E. A. Sympson).
4. Peyrusson recommends large doses of boric acid in *cholera*.
5. Bükhaloff considers boric acid as a very effective substitute for quinine in the treatment of *malarial fevers*. (For this purpose borate of quinoidine is preferable to boric acid).
6. Boric acid is highly spoken of by Atkinson as a remedy for *puerperal fever*.
7. *Topical uses*.—Borax is useful locally for sore throat, aphonia from over use of the voice, diphtheria, aphthous ulceration in phthisis and cracked tongue. It has also an antisialic properties. Taken a few minutes before speaking or singing will clarify the voice.
8. Uses of borax by the *hakims* and *vaid*s :—
 - (a) It is very useful, in the convulsions of infants and children, in doses of 1 to 5 grs. according to the age of the child, when given in mother's milk.
 - (b) 5 grs. of borax and 3 grs. of peepar with a teaspoonful of honey, given thrice a day, is very effective for bronchitis and asthma in adults; for children, the dose is proportionate to their age.
 - (c) 5 grs. of borax eaten with chavica leaves has been found to be effective in impotence.
 - (d) 5-gr. doses with treacle have been employed as a deobstruent in internal tumours of the abdomen.
 - (e) A paste made of equal parts of borax, alum and milk curd has been employed as a resolvent for external tumours and glandular enlargements.

Clinical Reports.—(1.) Fulson quotes the details of two cases in both of whom severe symptoms of bromism made it impossible to continue this form of treatment. Fits became frequent and severe when the bromide treatment was discontinued; accordingly the administration of borax was commenced, at first in 10 and later on in 20-gr. doses, three times a day. In one of the cases 78 days were allowed to elapse before the new treatment was commenced and it was continued for two years; during the last 12 months only two fits had occurred, caused on each occasion by indigestion. The other patient had only two fits in 18 months. Both patients became all right mentally and were in perfect health; *in both a scaly eruption appeared but disappeared when arsenic was administered; and one patient was troubled by vomiting at the commencement; but this ceased when aromatics were combined with borax.*

(2) Report by Judson S. Bury.

I can fully endorse the statements of Drs. Risien Russell and James Taylor in their interesting paper, with regard to the value of borax in the treatment of epilepsy, and I agree with them as to the necessity for emphasising this fact; for although here and there in medical literature it is recorded that fits have been cured by borax, the virtues of this remedy have for the most part been either ignored or under-estimated. Yet I think there can be no doubt that when the bromides, administered either alone or in conjunction with belladonna, fail to relieve convulsive seizures, biborate of soda is the most likely drug to be of service. And I would also point out that boracic acid, so far as I have tried it, appears to be quite as efficacious as its alkaline salt. Its value is strikingly illustrated by the following case, which was under my care at the Clinical Hospital about two years ago. It was that of a girl aged six years, who had been subject to fits for a few weeks, which the mother attributed to a fall on the head. The child attended as an out-patient for some time; but as the fits appeared to be uninfluenced by the administration of bromide of potassium, she was taken into the hospital, in order that the effects of treatment might be more accurately observed. During the first five days she took every four hours a mixture containing five grains of bromide of potassium and

five minims of tincture of belladonna; but on each day she had from twelve to twenty attacks of general convulsions with loss of consciousness. The doses of bromide and belladonna were then increased to ten grains and seven minims respectively; but as the frequency of the fits remained unaltered, she was ordered to take five grains of boric acid in water every four hours. During the next four days the number of fits fell to nine and ten days, and when the dose of boric acid was increased to ten grains the improvement was still more marked; the fits ceased on the fifth day, and the child subsequently left the hospital completely cured. Since that time I have repeatedly prescribed boracic acid and borax, both for ordinary epilepsy and for the convulsions associated with the spastic hemiplegia of infancy, and as a rule with good results.

As regards the mode of administration, it may be observed: (1) that both borax and boric acid are very soluble in glycerine; (2) that if we wish to prescribe borax alone, much glycerine should be excluded, for a mixture of pure neutral glycerine and pure borax is acid, owing to the presence of free boric acid; (3) that borax increases the solubility of boric acid to a considerable extent, so that it is often advantageous to give them in combination.

BORATE OF AMMONIA.

Borate of ammonia administered in doses of 5 grs. in solution either alone or combined with *Codea*, *Hyoscyamus* or other sedatives, has been found of great value in *phthisis*. It is also useful in *paroxysm of renal colic produced by uric acid calculi*; 20 grs. are prescribed every 2 hours, until a free passage of urine takes place, and then every 4 hours until all ill feeling passes off. Then reduce the dose to 15 grs. *ter die* before meals in a glass of linseed tea and this treatment is continued for several months, discontinuing it for a day or two at a time every 2 weeks.

Dose.—10 to 20 grs.

BROMIDES.

BROMIDE OF AMMONIUM, POTASSIUM AND SODIUM.

1. Bromide of potassuim is a *sedative to the nervous system, possessing an antiepileptic, alterative, antispasmodic and resolvent properties.*
2. *As an antispasmodic and sedative, it is indicated in pertussis, laryngismus stridulus, infantile colic, delirium tremens, migraine, nightmare, hysteria, asthma and spermatorrhœa.*
3. *As an hypnotic it is useful in insomnia due to worry, mental anxiety and overwork.*
4. It is also useful in *incipient and pronounced delirium tremens, chorea, hysteria and cardiac cases.*
5. Bromide of potassuim has greater effect in whooping cough than the bromide of sodium, owing to its greater depressant effect on the cerebrum.
6. However under certain conditions the *bromide of sodium is preferable to bromide of potassium*, because several of the bad effects, which the potassium salt being long continued produces, have not been observed in bromide of sodium.
7. In women approaching to *menopause* and suffering from usual train of nervous symptoms, with abdominal and cranial pains, tinnitus aurium, and flatulent dyspepsia, *bromide of sodium in 30 gr. doses has better effects* than the potassium bromide being less depressant.
8. In menorrhagia and metrorrhagia there is no difference between the action of the two drugs.
9. In the very muscular pains following severe straining after diarrhœa, the sodium salt is of great comfort and brings on return of looseness.
10. In the various forms of neuralgia and headache, and nervous excitement, and as an hypnotic, *and where hypnotic is needed in insomnia from whatever cause and puerperal mania with great depression*, the soda salt is preferable.

11. In insomnia, threatening to bring on dementia and *also in cardiac cases with epilepsy*, 50 to 80 grs. of bromide of sodium produces several hours' sleep without affecting the heart's muscle to any extent. Also useful in *irritation and palpitations of the heart without organic lesion* as in excessive tea and coffee drinking, tobacco smoking, or due to dyspeptic troubles.
12. In the graver forms of epilepsy when we are required to give bromides for 8 or 10 months the soda salt may be administered with far less toxic signs or signs of depression.
13. In renal disease, cancer of rectum &c., where opium or morphia is inadmissible or injurious, soda salt pushed upto 90 grs. every 2 or 3 hours is of great use.
14. A dose of bromide of sodium taken before going on board the ship will usually ward off sea sickness.
15. As a lotion for irritable throat or for spasms, the potash salt is best.
16. It has been asserted that bromide of potassium induces contraction of the blood-vessels, and Dr. Geneuil has used a local application in the treatment of epistaxis, uterine hemorrhage, and coryza. It should also be given internally. In coryza two injections of a saturated solution into the nose give relief in an hour, and a permanent cure is effected in about six hours.

BROMIDE OF GOLD.

Bromide of gold is easily soluble in water, and the solution, if not exposed to light, keeps very well. Following up the observations of Bourneville, Dauge, and Goubert, on the treatment of epilepsy by bromide of gold, several Russian physicians have made trial of this drug in various affections of the nervous system. Professor Merzheévski, having a very obstinate case of hysteria, which had resisted all the usual remedies, prescribed bromide of gold in quarter-grain doses, and afterwards in half-grain doses, with marked effect, the patient feeling much better and the hysterical attacks becoming far milder and less frequent. Dr. Rozeubach

also—having tried bromide of potassium unsuccessfully in half-a-dozen cases of hysteria—ordered bromide of gold; during the first week the attacks became less frequent. Immediately after the drug was commenced the sensibility of the mouth became deadened, but that was the only symptom of bromism which occurred. Again, Dr. Danillo prescribed bromide of gold in eight cases of epilepsy, ordering at first four pills, each containing one-fifth of a grain, and afterwards twelve to sixteen of these pills per diem. No symptoms of bromism, with the exception of some anæsthesia of the mouth, were produced. In five cases there was more or less improvement; in one of these the fits became reduced in degree to the level of petit mal; in another, where the patient was a girl of fourteen, the fits, which had formerly occurred once or twice a week, were completely stopped, and four months afterwards there had been no return; in three cases the fits became weaker and less frequent. Over the remaining three of the eight cases the bromide of gold appeared to exert no influence. D. Shcherbak has recently published in the *Vrach* an account of some laboratory experiments made with the view of ascertaining the proper dose of bromide of gold, and also of comparing its action with that of other better-known bromides. The drug was administered in three ways—by intravenous injection, by hypodermic injection, and through the oesophageal tube into the stomach. It was found that artificially induced epileptiform attacks could be averted by the intravenous injection of 0.003 gramme per kilogramme of body weight, larger doses being needed in hypodermic administration (viz., 0.09 to 0.16 gramme), whilst by the stomach the attacks were not entirely prevented unless from 0.1 to 0.2 gramme per kilogramme of body weight was employed. On the whole, it appears that bromide of gold is decidedly more active weight for weight than the more commonly used bromides, probably in the proportion of 10 to 1.

Dose.— $\frac{1}{5}$ to 2 grs.; 1 gr. is the ordinary dose for an adult.

BROMIDE OF IRON.

Syn.—*Ferri Bromidum.*

Characters.—A white deliquescent salt, which soon becomes reddish-brown on exposure to air. It is obtained by heating

together fine iron wire and bromine into a flask of thin glass. The most elegant and suitable form for administering this salt is in the form of a syrup, which contains 10 per cent. of ferrous bromide.

Dose.—1 to 3 grs.

SYRUPUS FERRI BROMIDI.

Characters and Tests.—A transparent, pale-green liquid, odorless, having a sweet, strongly ferruginous taste, and a neutral reaction. With test-solution of ferri cyanide of potassium it yields a blue precipitate. If a little disulphide of carbon be added to the syrup, then a few drops of chlorine water, and the whole agitated, the disulphide will separate with a yellow or brown colour. It should not deposit a sediment on keeping, and should not tinge gelatinized starch yellow—(abs. of free bromine).

Therapeutical properties.—It is useful as a tonic and sedative combined, having also alterative and resolvent properties. It is especially useful in uterine enlargements and some chronic cases of ovaritis. It is of great value in all neuralgic affections, in cases of bronchocele, scrofula and menorrhagia. It is equally beneficial in chorea, and for cases of hysteria and hystero-epilepsy in chlorotic girls and females, and as a tonic in the after stage of whooping cough.

Dose.— $\frac{1}{2}$ fl. dr. to 2 fl. drs. (1 dr. of syrup contains about $4\frac{1}{2}$ grs. of the salt).

BROMIDE OF MAGNESIUM.

Properties.—In the form of liquor or solution it has recently been used in the American Hospitals, chiefly as a sedative to the nervous system in the insane department.

Preparation and Dose.—Liq. Magnesii Bromidi, 1 to 2 fl. drs.
(Each fluid drachm contains about 7 grs. of salt).

BROMIDE OF QUININE. *Vide Quininæ Hydrobromas.*

BROMIDE OF ZINC.

Characters.—A white powder very deliquescent and soluble in water.

Properties.—Very satisfactory results have been obtained by $\frac{3}{4}$ gr. doses of bromide of zinc in pill in epilepsy; commencing with one pill daily, the dose may be gradually increased to as much as 25 grs. per day. It is useful in ovarian irritation.

Dose.—3. to 10 grs.

BROMOFORM.

Characters.—It is a heavy volatile liquid, prepared by simultaneous action of bromine and aqueous alkalis on alcohol, wood-spirit, and acetone. It is easily decomposed if exposed to light. Caustic potash converts it into potassium bromide and formate. Red bromoform should be rejected, since it is already decomposed and contains free bromine and is consequently unsuited for administration. It is very slightly soluble in water, hence the addition of alcohol is required to the mixture in which it is administered.

Therapeutical properties.—The action of bromoform is entirely different from that of bromide of potassium, as has been observed in epilepsy, the former being rather an excitant than a sedative. Numerous observations have proved that bromoform is non-poisonous, and that the pulse and temperature remain unaffected by it. *It is specific for the treatment of whooping cough*, rendering the attacks shorter, and improving the appetite. A perfect cure results in from 2 to 3 weeks under its administration. Small quantities of bromoform should be ordered at a time, as it is very volatile.

Dr. Stepp of Nürnberg has treated, about a hundred cases of whooping cough, satisfactorily, and in no single case was there a failure noted. The children, so treated, mostly ranged in age from 4 weeks to 7 years. The longest time required for a complete cure was four weeks. The symptoms of pulmonary catarrh in all these cases were entirely absent, or else they were very slight and soon disappeared. Vomiting as an accompaniment was immediately arrested. No complications existed in any of the cases observed by

Dr. Stepp, but Dr. Goldschmidt has treated several serious cases of whooping cough complicated with pneumonia, completely curing them in a fortnight by the daily administration of bromoform.

Dr. Stepp concludes from his observations that under bromoform treatment bronchial catarrh and lobular pneumonia do not generally occur, and that where they exist at the commencement of the treatment resolution takes place with facility and at an earlier period than under other methods of treatment. His observations showed also that the dose of bromoform must be in direct proportion to the severity of the affection and the age of the patient. The system does not seem to become accustomed to the drug, which has, moreover, considerable prophylactic power, so that the other children of a family in which whooping-cough in an advanced stage already exists can be shielded from the disease by being given bromoform. Dr. Stepp believes that bromoform is either excreted unaltered by the lungs or is separated into its elements, and that the free bromine is excreted by the lungs. In this way an effect on the bacilli of whooping-cough could be easily supposed to result.

Mode of Administration and Doses.—It is administered in drop doses in a teaspoonful of water. On account of its high sp. gr. the bromoform sinks to the bottom of the spoon. *Therefore the teaspoon should be carried well back into the mouth and its contents rapidly swallowed.*

- (a.) For children 3 to 4 weeks, 1 drop three or four times a day.
- (b.) For older, nursing children, 3 drops according to the intensity of the attack.
- (c.) In children of from 2 to 4 years of age, 4 to 5 drops, three or four times a day.
- (d.) Upto 7 years of age 6 to 7 drops, three or four times a day.

BROMUM.

BROMINE. Br. 79·8

Natural History.—Bromine is found in both kingdoms of nature, but never in the free state. It exists in sea-water and many mineral waters, especially brine springs, in combination with either sodium,

magnesium, or calcium. The saline springs near Kreuznach in Germany, are especially rich in it. Bromine has also been found in the sea-plants of the Mediterranean, and in the mother-waters of Kelp.

Preparation.—When the mother-liquor of sea-water, or bittern, has been deprived, as much as possible, of its other salts by crystallization, chlorine is developed in it (either by binoxide of manganese and hydrochloric acid ; or, when the quantity of metallic chloride is sufficient by binoxide of manganese and sulphuric acid). This decomposes the bromide of magnesium contained in the liquor, and sets free bromine, which distils over : $\text{MgBr} + \text{Cl} = \text{MgCl} + \text{Br}$. The bromine thus obtained requires to be subsequently purified.

Characters.—A dark brownish-red mobile liquid, which, seen by reflected light, appears blackish red, but viewed in thin layers, by transmitted light, is hyacinth red, evolving, even at the ordinary temperature a yellowish-red vapour highly irritating to the eyes and lungs, and having a peculiar, suffocating odor, resembling that of chlorine. When exposed to a cold of -4° F. it is a yellowish-brown, brittle, crystalline solid. It boils at 145.4° F. and has the sp. gr. 2.990. It is soluble in 33 parts of water at 59° F., is dissipated on boiling the water, and is very soluble in alcohol and ether with gradual decomposition of these two liquids ; also very soluble in chloroform and in disulphide of carbon. It is completely volatilized by exposure to air or to heat. It is a bleaching agent, destroying the colour of litmus and of sulphate of indigo, and renders gelatinized starch yellow. Antimony and arsenic take fire when dropped into liquid bromine ; when potassium or phosphorus is used, a violent explosion takes place. It causes a yellowish-white precipitate with a solution of nitrate of silver. It should be preserved under a layer of water in a stoppered bottle, to prevent evaporation.

Properties.—Bromine is employed pharmaceutically, to form bromide of potassium, and for detecting iodine in bromide of potassium. Medicinally it is employed for destroying the fetid smell of uterine cancer. It is applied by means of a lint dipped into a mixture composed of bromine, 12 mins., sp. rect., 1 dr. ; using at the same time, an injection, composed of bromine, 12 mins., sp. rect., 2 drs., water, 16 ozs.

‘A CORRESPONDENT, writing after a visit to the Samaritan Hospital says : “ We saw also, with Dr. W. Williams, a woman aged 50, whose cervix uteri had been amputated for epithelial cancer by Mr. Baker-Brown eight years before. The actual cautery had been applied later by Dr. Routh, and later still, Dr. W. Williams had injected bromine at three sittings, after which the whole of the affected part came away, and complete healing took place. The parts were now quite sound. There was apparently only an inch of uterus left. The solution used is one part of bromine to three of rectified spirits. This develops heat, and should be prepared some time before being used. From five to ten minims are injected into the tissues by means of a long syringe with a platinum nozzle and an India-rubber piston. It is desirable to remember that it may destroy the sense of smell in the operator, and that this may be prevented by placing alkalinized cotton-wool in the nostrils.”

BRUCIA OR BRUCINE ($C_{46} H_{26} N_2 O_8$)

Characters.—One of the alkaloids from *Nux Vomica*, and also contained in *Ignatia Amara*; when combined with water, is capable of crystallising, in oblique four-sided prisms; or sometimes the crystals have a pearly laminated appearance, something like boracic acid. Its taste is very bitter, though less than that of strychnia. It is soluble in 850 parts of cold, or 500 parts of boiling water; but the presence of colouring matter, of which it is difficult to deprive it, promotes its solubility. It is very soluble in alcohol, but is insoluble in ether and the fixed oils, and is very slightly soluble in the volatile oils. Nitric acid communicates a fine red colour to brucia; and the colour changes to violet on the addition of chloride of tin: sulphuretted hydrogen and sulphurous acid destroy the colour. Chlorine communicates a red colour to brucia. Bromine communicates a violet tint to its alcoholic solution. Sulphuric acid first reddens brucia, and then turns it yellow and green, but does not produce the deep violet colour on the addition of bichromate of potash. The salts of brucia are readily formed by saturating dilute acids with brucia. They are soluble, crystallisable, and have a bitter taste. They are decomposed by potash, soda, ammonia, the alkaline earths, morphia, and strychnia, which precipitate

the brucia. They precipitate on the addition of tannic acid (*tannate of brucia*).

Therapeutical Properties.—It has a *local analgesic* properties of a marked order. The *burning sensation* imported to the tongue by *certain spices* can be relieved by local application of a solution of brucine of the strength of 5 per cent. Has been useful in *assuaging pain* occasioned by the presence of *ulcers of the tongue and gums*. Rubbing the back of the hands with a 2 per cent. solution causes a decided loss of sensibility in the part. The burning pain resulting from the friction of *croton oil* is relieved by a 5 per cent. solution, as also that of *pruritus vulvæ* and the result of a *sinapism*.

Clinical conclusions.—1. A 5 per cent. solution relieved the *painful furunculosis of external auditory canal*. In two cases marked relief occurred within two minutes, lasting for some hours.

2. In cases of *painful otitis of middle ear* the solution gave relief in all cases.

3. It is useful in sensitive condition of the auditory canal.

4. Lessens or entirely abolishes the pain and burning caused by the application of *Iodine, Nitrate, of Silver, Sulphate of Copper, and the like*, to the mucous membrane of the throat and air passages.

5. Painted along the line of incision before opening a *shallow abscess, it did no good*.

6. Speaking generally the *brucine salt* is not considered equal in its local effects to the *cocaine*.

7. It is not generally given internally; it is a pure bitter tonic, without any astringency or aroma.

Dose.—1/16 to 1 gr. upto 5 grs., which is the maximum adult dose.

BRYONY.

Syn.—*Bryonia Alba*, *White Bryony*. [Other species are *Bryonia dioica*, *B. Americana*, *B. Africana* and *B. Epigæa*; the last is the Indian species and is known as, *Kadavi-nâi-no-kando* (Guj.), *Kavale-che-dole* (Bomb.), *Rakâsa-gaddah* (Hind.)]

Part employed.—*The Root.*

N.O.—*Cucurbitaceæ.*

Habitat.—*Europe.* [Except the *B. Alba*, which is a native of Europe, other species are natives principally of hot climates, in almost every part of the world, but especially abundant in the East Indies. One species only occurs in the British Isles, the *Bryonia dioica*.]

Characters.—It is a perennial rough plant, grows wild in hedges and thickets, and climbs up bushes, with curled tendrils, and blossoming during the month of May. The flowers are yellowish-white, with green streaks, and are dioecious; the leaves are palmately 5-lobed, more or less deeply divided, with their upper surface thickly studded with white jointed calcareous hairs; fruit round, smooth, red with white streaks, the size of a marble.

The root, when fresh, affords a thin milky juice, which has a disagreeable smell, and a nauseous, biting bitter taste; if applied to the skin, it blisters. The dry root, which is employed for medicinal purposes, occurs in transverse sections about 2 inches in diameter, the bark gray-brown, rough, thin, the central portion whitish or grayish, with numerous, small wood-bundles arranged in circles and projecting, radiating lines; inodorous, taste disagreeably bitter.

Therapeutical Properties.—The root contains a peculiar bitter principle, termed *Bryonin*, which, in non-medicinal doses, is highly poisonous, acting as a violent emetic and cathartic, giving rise to symptoms much resembling those of cholera.

In small doses it possesses an hydragogue cathartic, diuretic, anthelmintic, emmenagogue, resolvent and deobstruent properties. It is chiefly useful in dropsies, (as it acts, not only as an hydragogue cathartic, but also as a well marked diuretic), in serous inflammations in joints, pleura, &c., chronic rheumatism, chronic bronchitis, torpidity of the liver, chronic nervous affections, asthma, mania and epilepsy. The fresh root is emetic. *Bryonia* may very well be employed in place of jalap as an hydragogue cathartic. In the time of Dioscorides, the upper part of the root was laid bare and a hole scooped in it, which in a few hours filled with juice; one teaspoonful of this was taken once or twice a day (Philips). The juice, which issues spontaneously, in doses of dr. ss. or more, has similar, though more gentle effects.

Externally it is useful as a discutient over painful rheumatic joints and bruises. (The root of *B. Epigæa* has been employed by the natives of India as an alterative in syphilis, as an anthelmintic and as a powerful remedy in snake-bites).

Preparations and Doses.—Powdered Root, 10 to 60 grs.

Fl. Ext., 10 to 60 mins.

Tr. (1 to 7 Pf. Sp.), 5 to 15 mins.

Bryonin (active principle) 1 to 2 grs.

The doses vary according to the nature of the disease in which it may be employed.

BURDOCK.

Syn.—*Arctium Lappa* ; *Lappa Officinalis* ; *Semen Barbanæ* ; *Barbane* (Fr.) ; *Klettensamen* (Ger.)

Parts employed.—*The Leaves, Root and Seeds.*

N. O.—*Compositæ.*

Habitat.—*Europe and United States* ; *common weed everywhere in the temperate zone.*

Characters.—*Arctium lappa*, the common burdock or clot-bur, is a stout erect branching biennial plant, from 3 to 5 feet high, with very large leaves, common on road sides and waste places all over Europe. The root is about twelve inches or more long, and about one inch thick ; nearly simple, fusiform, fleshy, longitudinally wrinkled, crowned with a tuft of whitish, soft, hairy leaf stalks ; gray brown, internally paler ; bark rather thick, the inner part and the soft wood radially striate, the parenchyma often with cavities lined with snow-white remains of tissue ; odor feeble and unpleasant ; taste mucilaginous, sweetish and somewhat bitter.

Therapeutical Properties.—Burdock has long held a prominent place among vegetable alteratives or depurants, and has been esteemed for its aperient, diuretic and diaphoretic properties. Stille and Maisch accredit it with producing a gradual and insensible modification of nutrition and it has been, chiefly employed as an adjuvant in the treatment of rheumatism gout, chronic cutaneous diseases and pulmonary catarrhs. In scrofula and constitutional syphilis, and in the discharge

of copious urinary deposits, it has occupied an important position as a remedial agent.

It has been successfully employed, in chronic constitutional diseases, by the European and American practitioners. It has now come forward as a valuable adjuvant in stomachic and alterative mixtures in English practice. It is a decided alterative and stomachic, improving the nutritive, secretive and assimilative functions.

It is also useful in scurvy. The seeds are alterative, bitter and cathartic. According to Dr. Reiter, of Pittsburg, burdock seeds, used in the form of a tincture, are a valuable alterative, having almost a *specific effect in curing certain chronic skin diseases*. The remedy must be persisted in for months, if necessary, but he is confident that the most *obstinate case of psoriasis* will yield to it, and that the cure will generally be permanent.

Externally the decoction of the root is efficacious for *baldness*.

Clinical Report.—Dr. Reiter details his own experience in the use of the seeds. He inherited from his father psoriasis inveterata (salt rheum or tetter [?]) which had been a heirloom of his family for generations. His father had sought the best of European advice, but without relief, and the doctor, as he neared middle age, found that the hereditary enemy was beginning to become increasingly troublesome. He was advised by a patient, an old farmer, to give burdock seeds a trial. The farmer himself claimed to have found relief through this means after the disease had affected his hands so severely as to cause a shedding of his nails. The doctor followed the advice given, preparing a tincture of the seeds with whisky and taking it in teaspoonful doses three times a day. The recovery which followed was prompt and for nearly forty years he was exempt from his tormentor. In 1875 he made a European tour and returned with his old malady restored in an aggravated form. A return to the burdock seeds once more gave him relief.

Preparations and Doses.—Fl. Ext. of the seeds. Dose, as a tonic, 10 to 30 mins; as an alterative, 30 to 60 mins., well diluted, half an hour before meals.

Fl. Ext. of the root, $\frac{1}{2}$ to 2 fl. drs.

Tr. (1 of seeds to 10 of Pf. Sp.), $\frac{1}{2}$ to 4 fl. drs.

Solid. Ext. 5 to 20 grs.

Decoct.—2 ozs. of the leaves or root, and 2 pints of water; and boiled down to one; this quantity may be taken in 3 doses in the course of a day.

BUTYL-CHLORAL HYDRAS.

Syn.—*Hydrous Butyl-Chloral*; *Croton-Chloral Hydrate* (wrongly so called).

The pharmacology of butyl-chloral hydrate being well known owing to its being an old medication, I dwell simply upon some of its practical therapeutical uses as follows :—

1. *Facial neuralgias* are successfully treated by croton-chloral hydrate combined with *gelsemium*.

2. It is a *specific for whooping-cough* just as salicylate of soda is for rheumatism, and can be given to very young children.

3. As it produces *anæsthesia of the fifth nerve* it is exceedingly useful in trigeminal neuralgia in doses of 5 to 10 grs., if small doses, given at first, fail to relieve.

4. It is recommended in the *irritative night coughs of phthisis* in doses of 2 to 5 grs. every hour or smaller doses every half hour until 15 grs. have been taken.

5. It is particularly invaluable in *hysteria accompanied by convulsions*.

6. In large doses its hypnotic effects are marvellous; 15 to 45 grs. according to the patient's conditions can be given at bed-time.

CACTUS GRANDIFLORUS.

Syn.—*Cereus Grandiflorus*; *Night Blooming Cereus*.

Part employed.—*The Flowers and fleshy stems*.

N. O.—*Cactaceæ*.

Habitat.—*Mexico, West Indies*.

Characters.—A succulent plant usually spiny and leafless; stem either globular, columnar or flattened; flowers sessile, showy, very large,

sometimes as much as one foot in diameter ; it is remarkable for opening its flowers at night, and hence the name of *night blooming cereus*.

Physiological actions.—It resembles in its physiological actions to *Digitalis* as regards the first two stages (*vide Digitalis*), but the third or final stage of its actions, seems to be the very opposite,—that is, it strengthens the heart, and, consequently the circulation improves, and hence the final exhibition of the drug is the reverse of that seen in *digitalis*.

Therapeutical actions.—It is a new cardiac tonic and sedative and diuretic. It is indicated in *asthenic conditions of the heart*, while *Digitalis* is most applicable to *sthenic or over stimulated conditions of heart*. It is especially useful in functional diseases of the heart attended with much irregularity of action, in which it exerts a decided action palliating or removing the symptoms and frequently giving prompt relief. It has been found serviceable in palpitation, angina pectoris, rheumatism, valvular disease, hæmoptysis, dropsy and threatened apoplexy.

Clinical cases.—The first case was that of a youth of 13 years of age, of strumous diathesis, feeble, and the heart very weak. Under the steady exhibition of *Cactus*, the heart improved and the patient grew to be a young man of fairly good health.

2. The next case was that of a man aged 60, saying that he could not continue his work owing to the suffering produced by exertion. He had mitral disease and was given *Cactus* and *Ammonia*. He so far improved that he was able to resume work, and continued it for some years.

3. The third case was that of a man with feeble heart, liver diseased and general dropsy, the patient having already been tapped before coming under Dr. Jone's care. Under the influence of *cactus* the patient's strength was stated to have greatly improved, his heart renewed in strength and the dropsy almost entirely disappeared.

Preparations and Doses.—Fl. Ext. of fresh flowers, 10 to 30 mins.
Tr. 10 to 60 mins.

CAFFEINA.**CAFFEINE.**

Syn.—*Caffeia* ; *Theina* ; *Guaranina*.

Sources.—A proximate principle of feebly alkaloidal power, generally prepared from the dried leaves of *Camellia Thea* or from the dried seeds of *Coffea Arabica*; or from *Guarana*, and occurring also in other plants. It is obtained by evaporating their aqueous infusions from which astringent and colouring matters have been removed.

Characters and Tests.—Colourless, silky, inodorous acicular crystals. Soluble in 80 parts of cold water, the solution having a faintly bitter taste and being neutral to litmus. More soluble in boiling water and in rectified spirit, and very soluble in chloroform. Treated with crystal of chlorate of potassium and a few drops of hydrochloric acid, and the mixture evaporated to dryness in a porcelain dish, a reddish residue results, which becomes purple when moistened with ammonia. In an aqueous solution of the alkaloid, tannic acid gives a white precipitate soluble in excess of the reagent. Most of the salts of caffeine are decomposed in the presence of water.

Therapeutics.—*Vide* CAFFEINÆ CITRAS.

CAFFEINÆ CITRAS.

Characters.—A weak compound of caffeine and citric acid, occurring in the form of a white inodorous powder, with a faintly bitter taste, and an acid reaction; soluble in a mixture of 2 parts of chloroform and one of rectified spirit. With a little water it forms a clear syrupy solution, which on dilution yields a white precipitate of caffeine that redissolves when ten parts of water have been added.

Physiological actions.—Caffeine seems to stimulate the reasoning faculties as profoundly as the imagination. It causes wakefulness and seemingly increased mental activity, which must be due to a direct stimulant action exerted upon the cerebrum. The nervous erythism, which it produces, is doubtless due to spinal stimulation. It can hardly be doubted that it has a direct influence upon the heart.

Caffeine compared with Digitalin.—Its effect on the heart is more rapid than that of *Digitalin*; in less than 24 hours, the pulse will fall

from 160 to 100 or 80 beats per minute and the force of heart's contractions, is increased in just the same way as *Digitalin*. The only inconvenience is the occasional production of *insomnia* during its administration. It is better borne and seems to be rapidly eliminated than *Digitalin*. Caffeine increases the force of the heart, lessens its irritability, and increases arterial pressure and acts very powerfully and quietly in increasing the flow of urine, probably lessening the urea excreted. That Caffeine before acting on the heart exercises marked action on the central nervous system, and there is thus therefore, a marked difference in the action of *Digitalin and Caffeine*, the former being primarily a cardiac remedy, the latter acting first on the nervous system.

Professor Sée had performed several experiments during the last twelve months, which placed beyond a doubt the action of caffeine on the muscular function. He related that some young men had one day undertaken long journeys and joined in long foot-races, under the ordinary conditions of food-supply, and on the following day, after having taken from thirty to fifty centigrammes of caffeine ; all of them affirmed that the caffeine had prevented any untoward after-effects or any sensation of fatigue. It was also observed by registering apparatus that after a long race there was found no alteration of the circulatory or respiratory rhythm if they had taken the caffeine two hours before running. Professor Sée therefore believed that caffeine placed an untrained man in the position of an individual trained to fatiguing exercises. He concludes that caffeine in man acts on the motor voluntary influx, which starts from the brain with great energy and acts on the more excitable motor centres. Thus the forces are augmented and fatigue is abolished. Caffeine does not act by saving the nitrogenous tissues from wear and tear, but by facilitating the combustion of the ternary elements of the organism. It seems to augment the central temperature, and to increase the excretion of carbonic acid, and thus furnishes strength to a starved individual, but at his own expense. We are here, apparently, in presence of a paradox : the caffeine on the one part accelerates denutrition ; on the other it prevents the evil effects of starvation. Caffeine does not save the tissues, as does the complete absence of all work. It acts like a food in repairing their waste. It acts in stimulating the cerebro-spinal functions on the one part, and also in producing

a special excitation analogous to that arising from the mere ingestion of any food stuff. It is known that the ingestion of an aliment will increase the strength, even before it is acted on by the gastric juice, by stimulating the organism to make use of its reserve supplies.

Therapeutical actions.—From the above described physiological actions of *caffeine*, it is evident, (1) that *caffeine* is *one of the best tonics of the heart*, and in the last stages of cardiac affection, it renders more service than *Digitalis*. It is decidedly superior to *Digitalis* in cases of *extreme cardiac diseases whether of the valves or heart walls*. It is a *heart regulating drug*, increasing the force of the heart, lessens its irritability, increases arterial pressure, acts very powerfully and quietly in increasing the flow of urine and *has no cumulative action*.

(2) Citrate of Caffeine has been found serviceable in cases of *melancholia with vasomotor disturbance, anæmic headaches, emotional distress and active delusions of apprehensions and distrust in insane persons*. It is useful in *hysterical spasms, certain cases of delirium tremens, nervous headaches and hypochondriasis*.

(3) It is particularly serviceable in relieving *persistent headache*, which accompanies nervous asthenia, and in *migraine* with or without stomach derangement.

(4) Dr. Beard says that the remedy is found by him useful in other forms of headache (neuralgic and nervous) besides sick headache. His custom is to prescribe it in 2-gr. powders, with direction to repeat every half hour until the headache and nausea disappear. He has known it to produce this effect in less than 15 minutes. The relief, it produces in headache, is too speedy and too frequent to be accounted for by coincidence or mental influence. When prescribed in cases of headache, it increases the appetite and promotes digestion.

(5) It has been largely used as a *diuretic* but it has been little used for its action on the heart; and is an useful diuretic in *dropsy due to disease or insufficiency of the valves of the heart, renal dropsy and ascites*. Its diuretic powers have been much increased by *paraldehyde*.

(6) It is indicated in *bronchial asthma and emphysema* just as in heart disease.

(7) *Caffeine Hypodermically.*—Hypodermic injection of caffeine is superior to that of *ether*. Dr. Huchard has employed 30 to 45 grs.

in 24 hours subcutaneously, each injection consisting of 4 grs. of caffeine. Has been much used hypodermically for the relief of *occipital, brachial, and trifacial neuralgias, shingles and obstinate migraine*; also for *hysterical headache, insomnia of chronic alcoholism without delirium, and malarial neuralgia*.

Injurious Effects.—Large doses of caffeine produce palpitations, violent trembling of the extremities, choking sensation in the throat, &c. Such symptoms have been produced even by a dose of 4 grs. in some cases.

Clinical cases.—(1.) A man fell down from a height of 20 ft., striking his head severely, and sustaining slight contusions, and a momentary concussion followed by constant pain in the head and down the spine. Usual treatment had no effect, and bromide and iodide of potassium gave no relief. After the use of caffeine, the heart's action became normal, which had before increased in frequency and impulse, and headache subsided and got well.

(2.) A man received a severe wound on his scalp from a metal falling upon his head from a height; he got intense frontal headache which bromide and iodide of potassium failed to relieve. By the use of caffeine in 3-gr. doses, complete cure from giddiness and headache followed.

(3.) This was a case of chronic ovaritis in a female aged 25. She was subject to frontal headache a day or two previous to menstruation. Caffeine in 3-gr. doses thrice a day completely cured the neurosis.

Preparations and Doses.—Caffeinæ Citras 1 to 10 grs. Granular Effervescent Citrate (contains 1 gr. of citrate in one dr.), 1 to 4 drs., or teaspoonfuls.

Caffeinæ Hydrobromas, 1 to 4 grs. Coffeinæ Hydrobrm. Efferv. (contains 1 gr. in 1 dr.), 1 to 2 drs., or more. *Specially useful in sick-headache.*

Inj. Caffeinæ. Hypod.—Strength 1 gr. in 3 mins., rendered soluble by Sod. Salicyl. Dose.—1 to 6 mins.

Vide COFFEE.

CAFFEINÆ SODIO-SALICYLAS.

It contains 62·5 per cent. caffeine and is very soluble in water and is *best suited for hypodermic injection*.

It is useful in *inflammation of the lungs* in doses of 6 to 36 grs. per day. It is indicated in *fibrous pneumonia*, as soon as feebleness of the heart, frequent pulse, or arrhythmia of the pulse threaten to set in. It may also be given in *collapse*. *In the weakened condition of the heart present in the alcoholic and the aged*, the caffeine salt should be used at the commencement of the illness. If the danger be great it should be given *hypodermically*. It is also useful in *atelactasis and hypostatis*. It is also useful hypodermically for alcoholic and morphine poisoning.

Dose.— $\frac{1}{2}$ to 4 grs. hypodermically. (May be given internally if required).

CAFFEINÆ VALERIANAS.

In $1\frac{1}{2}$ gr. doses it is useful in checking nervous vomiting in hysteria.

Dose.—1 to 4 grs.

CALAMUS.

Syn.—*Acorus Calamus* ; Sweet Flag (*Eng.*) ; Vajá (*Guj.*) ; Gora vaja (*Hind.*) ; Vekhand (*Mah.*)

Part employed.—*The Rhizome*.

N. O.—*Acoraceæ* or *Orontiaceæ*.

Habitat.—*Europe, Asia and United States*.

Characters.—This plant grows in watery places and abounds in the rivers of Norfolk, whence the London market was formerly supplied. It blossoms during the months of May and June. The thick creeping stem or rhizome is a valuable part of the plant. It occurs in sections of various lengths, unpeeled, about $\frac{3}{4}$ inch broad, subcylindrical, longitudinally wrinkled ; on the lower surface marked with the circular scars of the rootlets in wavy lines ; externally reddish-brown, somewhat annulate from remnants of leaf-sheaths ; internally whitish, of a spongy texture, breaking with a short, corky fracture, showing numerous oil cells and scattered wood-bundles, the latter crowded within the sub-

circular nucleus-sheath. It has an aromatic odor, and a bitterish and strongly pungent taste.

Therapeutics.—It is an aromatic stimulant, carminative, and bitter tonic, in small doses.; in large doses it acts as a mild emetic. It is an useful adjunct to other stimulants and bitter tonics in flatulent colic and dyspepsia, and to cinchona in agues. It is used by the rectifiers to improve the flavour of gin, and is also employed to give a peculiar taste and fragrance to certain kinds of beers. In India it has been employed as a stimulant in chronic paralytic and nervous affections, and also in cases of bronchitis, and diarrhoea in children; also applied externally to paralysed limbs and rheumatic swellings. In India it is also occasionally used as an insectifuge and insecticide. The powdered rhizome is useful externally over foul and indolent ulcers. The volatile oil which may be obtained from it by distillation, is used for scenting snuff, and in the preparation of aromatic vinegar.

Preparations and Doses.—Powdered rhizome, 20 to 60 grs.

Fl. Ext., 5 to 40 mins.

Infusum (1 to 20), fz. 1 to fzs. 2.

Tr. (1 to 6 Pf. Sp.), 1 to 2 fdrs.

CALCI CHLORIDUM.

The pure crystalline form is preferred for internal administration.

Practical Uses.—It possesses a most wonderful power in controlling if not actually curing, many forms of *tubercular disease and wasting diseases of children*. Its power, in arresting such symptoms dependant upon tuberculous, is superior to *cod liver oil or iron*, and children soon get to take it quite readily. It is useful in *glandular enlargements of the neck, in suppuration of the lymphatic glands and caries due to scrofula*. In *glandular enlargements of the glands at the neck of children in which both iodine and cod liver oil failed it has proved successful*. It is useful in scrofulous caries. A solution in syrup renders it fairly palatable and may be given in milk after meals. In one-grain doses given frequently, it arrests sickness and vomiting when most remedies fail.

Doses.—1 to 3 grs. for young children.

10 to 15 or more upto 30 grs. for adults, well diluted with water and syrup.

CALCIU HIPPURAS.

Hippurate of Lime given in combination with phosphate of soda is useful in the *rachitic, scrofulous, and phthisical persons suffering from osteomalacia or from ununited fractures, and in infants with imperfect dental developement.*

Hippurate of lime has *specific* properties against affections of *urinary passages*, against affections of *liver*, certain *skin diseases*, diseases of *mucous membranes, stomach and intestines, diabetes, chronic rheumatism and gout, subacute cystitis and lithiasis.*

It is also useful in *diseases of the skin* depending upon the *tubercular, scrofulous* or upon the *neuropathic diathesis.*

In short the hippurate is useful in all cases where there is *disturbance in assimilation* and where some *mineral food* is needed by the organism and where there is *excess of uric acid in the system.*

Dose.—5 to 15 grs.

CALCIU PHOSPHAS.

The best assimilable form is the lacto-phosphate of lime. As it is contained in the gastric juice of animals, it develops appetite and is a strong digestive agent. As phosphate of lime enters into the formation of all the structures of the fœtus in utero, it is extremely beneficial to administer it to pregnant women during the entire period of gestation, especially during the first seven months of pregnancy. Hence it is essentially beneficial in cases of *cachexia, osteomalacia*, and those ill defined and deep pains of limbs observed in pregnant women of a feeble and lymphatic temperament, whose insufficient alimentation is unable to produce that natural reserve of phosphate.

Indications for the administration of lacto-phosphate of lime are : —Ricketty and scrofulous infants and children ; the adolescence or adult convalescence after a sickness of long standing ; (produces insatiable appetite so that the patients are compelled to be fed at night) ; cases of fractures and wounds ; indicated in all cases where nutrition is impaired. Administered during the period of gestation or suckling it is beneficial both to the mother and the infant and arrests all the accompanying bad symptoms ; there is no more green diarrhoea, sick-

ness, vomiting, pain in the stomach, flatulence, &c., both in infants and mothers.

It is very beneficial in low and typhoid forms of fevers, promoting appetite and lessening convalescence. Useful for croup in children and putrid angina; out of several such cases, one case of croup was so severe that tracheotomy was thought of as a last resource, but the syrup of lactophosphate of lime improved it; there was no need of tracheotomy and the child was on the actual point of suffocation before the administration of lactophosphate. (Dr. Blache of the Paris Hosp.) It is beneficial in acute albuminuria and pleuro-pneumonia after the stage of convalescence is established. Lastly it is generally very beneficial in cases of cachexias, phthisis, Pott's disease from tuberculosis, dyspepsia. It is *specific for green diarrhœa of infants*.

Dose.—10 to 40 grs.

CALCI SULPHIDUM.

Syn.—*Calx Sulphurata*; *Sulphide of Calcium*; *Canton's Phosphorus*.

Preparations.—Mix thoroughly 7 ozs. of sulphate of calcium in fine powder, and heat to redness in an earthen crucible until the black colour has disappeared. Cool, at once place the whitish residue in a stoppered bottle.

Characters and Tests.—A nearly white powder with a smell somewhat resembling that of sulphuretted hydrogen. When newly made, it is very phosphorescent; this property was first discovered by Canton, who first prepared it, and hence the name of Canton's phosphorus. If 8 grs. be added to a cold solution of 14 grs. of sulphate of copper in an ounce of water, a little hydrochloric acid be added, and the mixture be then well stirred and heated to a temperature approaching that of ebullition until all action has ceased, the filtered liquid should give no red colour with ferrocyanide of potassium. It is a mixture (commonly misnamed sulphide of calcium) consisting chiefly of sulphide of calcium and sulphate of calcium, in varying proportions, but containing not less than 50 per cent. of absolute sulphide of calcium.

Therapeutical Properties.—1. Sulphide of calcium and sulphur in any form are very useful agents in what are called “*germ diseases*,”

2. *The sulphides influence the suppurative process in a marked and manifest degree*

3. *Carbuncles and Furunculosis.*—Sulphide of calcium is said to be a most powerful remedy, *almost a specific*, in cases of *carbuncles* and *boils (furunculosis)*, even in the aged and most delicate patients; it acts by hastening the maturation and preventing the formation of fresh boils. It is also invaluable in *hordeolum or sty*, *acne pustulata*, *suppurating buboes* and *skin diseases attended with suppuration*.

4. *Strumous Keratitis.*—In the Birmingham Hospital, Mr. Solomon has found this remedy of considerable service in cases of *chronic vascular keratitis* (commonly known as *strumous*), especially where accompanied with evidences of impaired circulation, as cold extremities. He used the small doses recommended by Dr. Ringer, ordering one grain in half a pint of water; one to four drachms to be taken frequently; in larger doses it was apt to disorder the stomach; was injurious in acute cases, and in sanguine people acting as a stimulant.

5. *Scrofula.*—Sulphide of calcium if given in doses of $\frac{1}{10}$ to $\frac{1}{2}$ gr. frequently during the day will cure indolent forms of *chronic abscesses of scrofula* and *enlarged glands of neck* even when iodine fails.

6. *Elephantiasis.*—Sulphide of calcium is *specific* for *elephantiasis*. First give 1 gr. twice a day for a week and then 2 grs. twice a day until the swelling of elephantiasis subsides. Old cases of some months' duration have been completely cured under its long continued use.

7. *Diphtheria and Croup.*—It is destined to play a most important part as a great *germicidal remedy*. It is thus invaluable in croup and diphtheria. Of these 400 cases have been treated by Dr. Fontaine in France and the mortality has been reduced from 26 to 6 per cent. One granule of $\frac{1}{6}$ gr. is given every half hour until the vapour of sulphuretted hydrogen is given off from the skin and lungs and then every 3 hours only.

8. *Diabetes Mellitus*.—It has been employed with benefit in cases of diabetes mellitus, reducing both the quantity of sugar and the amount of urine passed.

9. Lastly sulphide of calcium, like sulphur, is indicated in what are called "*germ diseases*."

Vide.—SULPHUR.

Doses.— $\frac{1}{10}$ to 1 gr.

CAMPHOR-CHLORAL.

Characters.—A clear syrupy liquid, obtained by rubbing together, equal parts of chloral hydrate and camphor in a mortar, till solution takes place. It is miscible in all proportions with alcohol of spec. gr. 0.838 (89 per cent.); carbon disulphide, ether and olive oil. Soluble in 11 parts of alcohol of spec. gr. 0.937 (49 per cent.), and insoluble in water. Forms a clear mixture with $1\frac{1}{2}$ parts of chloroform; addition of 3 parts more renders it turbid.

Therapeutics.—Dr. Simmons has used a mixture of equal parts of chloral and camphor, in doses of twenty drops, in mania with sleeplessness, with the effect of causing prolonged and refreshing rest. In *mania, delirium tremens*, etc., he has found it to serve as a sedative when other remedies of this class have failed. The effect of combination is far in excess of that produced by either remedy given separately, and Dr. S. mentions a case in which prolonged narcotism for several days followed the accidental taking of a dose of two drachms.

Externally camphor-chloral is useful in relieving the neuralgic pains when rubbed in the affected parts.

GLYCEROLE OF CHLORAL AND CAMPHOR.—Carlo Pavesi, of Mortara, recommends, as a very effectual anodyne embrocation, in rheumatic, gouty, neuralgic, and arthritic affections, the following mixture:—

Camphor, in powder ..	5 gm.	gr. 75
Chloral Hydrate	4 „	„ 60
Glycerin.....	20 „	fl. drs. 4
Alcohol	15 „	fl. „ 3
Oil of Juniper	2 „	m. 30.

Mix in a vial, and expose to a gentle heat (not over 40° C or 104° F.), until solution has been effected. Let cool, and keep the vial well stoppered.

CAMPHORA MONOBROMATA.

MONOBROMATED CAMPHOR.

$C_{10}H_{15}BrO$; 230.8.— $C_{20}H_{15}BrO_2$; 230.8.

Preparation.—Bromine easily unites with camphor, and heated in a closed vessel, is resolved into hydrobromic acid and a crystallized compound, which is monobromized camphor, a body differing from ordinary camphor by the substitution of an atom of bromine for an atom of hydrogen.

Characters and Tests.—Colorless, prismatic needles or scales, permanent in the air and unaffected by light, having a mild, camphoraceous odor and taste, and a neutral reaction. Almost insoluble in water ; freely soluble in alcohol, ether, chloroform, hot benzin, and fixed oils ; slightly soluble in glycerin. When heated, Monobromated Camphor slowly volatilizes ; at 65° C. (149° F.) it melts, and may be sublimed at a slightly higher temperature. At 274° C. (525° F.) it boils and is completely volatilized with partial decomposition. If boiled with test-solution of nitrate of silver, it is decomposed and yields bromide of silver amounting to 81.2 per cent. of the weight of Monobromated Camphor taken. It is soluble, without decomposition, in cold, concentrated sulphuric acid, and will again separate unaltered, if the solution be poured into water.

Physiological actions.—Bromide of camphor acts on the sympathetic system of nerves, causing dilatation of the pupil, lessening the number of beats of the heart, causing contraction of the smaller blood vessels, lowering the temperature, and subsequently inducing mor or less tendency to sleep. In still larger doses, it paralyzes the heart.

Therapeutical actions.—It has been employed in *delirium tremens*, particularly that form of sleeplessness connected with the heart lesions or *cerebral hyperæmia*. It is the best nervine sedative and antispasmodic

in cases of *epilepsy, chorea and hysteria* and in *spasms or convulsions brought on by teething*, cases of epileptic delirium in females have been successfully treated by enemata containing from 15 to 60 grs. Has been successfully employed in *spermatorrhœa, nocturnal seminal emissions and chordee*. It remarkably controls the *excitement of hysteria and delirium tremens and hyperæmic conditions of the brain, blenorrhagia and nervous excitation of cardiac and genital system*.

THE ANTAGONISM BETWEEN MONOBROMATED CAMPHOR AND STRYCHNIA.

Dr. Valentin y Vivo publishes the conclusion of researches which he has made on the antagonism of monobromated camphor and strychnia :—Twelve dogs were poisoned with strychnia, and some of them were saved by means of the bromated camphor. The tetanic convulsions produced by the strychnia diminished in force and frequency under its use. The tonic convulsions became clonic, but a large dose of it was necessary to combat the effects of the strychnia. With an excessive dose of the antidote, the united effects of the poison and the antidote produced death by syncope. The latter acts on the sympathetic system of nerves, causing dilatation of the pupil and paralyzing the heart. When death supervenes under the influence of the strychnia alone, the heart continues to beat after death ; but when death is due to the bromated camphor, no post-mortem beating of the heart is observed. It is preferable to administer the bromated camphor by the stomach in small and repeated doses ; indeed, by hypodermic injection no result has been obtained.

Dr. Valenta has also made a series of experiments on dogs which led him to regard monobromated camphor as a certain antidote to strychnia. He recommends it to be used in cases of tetanus in daily doses of 4 to 6 grammes (1 dr. to $1\frac{1}{2}$ dr.) dissolved in dilute alcohol.

Dose.—2 to 5 or 10 grs. (Can be prescribed in pill with conserve of roses, or can be dissolved in almond or olive oil and mixed with mucilage and water).

CANNABIS INDICA.

Physiological actions.—In small doses it is an excitant, and in large doses, a sedative and calmative, tending to produce muscular resolution and sleep. When inhaled the fumes of hemp are said to produce singular muscular erythism and agitation which are followed by exhaustion with disagreeable hallucinations and stupor. It sometimes produces a homicidal delirium when taken internally, hence the name “haschashins” or “assassins.” In a short time the sleeper seems to himself to live years.

New Therapeutical and Practical Uses.—

(1.) It is especially useful for *sensitive ovaries* and like belladonna has a *sedative action on the uterus and pelvic contents*. It has few equals in its power over *nervous headaches*, such as women with pelvic troubles are subject. The common complaints of young women are those due to painful menstruation, or where there is perhaps not much real pain, but a considerable degree of pelvic and even general excitement making them to be very quiet and possibly to stay in bed, not only during the flow but also the few days preceding; and often the weakness resulting from this nervous excitement lasts for several days after the flow has entirely ceased. These can be remedied by the rectal use of pessaries composed of $\frac{1}{4}$ gr. of ext. of cannabis and $\frac{1}{4}$ gr. of ext. of belladonna at night and sometimes it is well to use one pessary also in the morning. This rectal treatment should begin a few days before the menstrual symptoms or prodromes appear. The uterine tissue being thus most susceptible to the action of Cannabis Indica, it is effective in preventing metrorrhagia and menorrhagia when given internally.

It is an *anodyne and hypnotic without the deleterious effects of opium*. It is very useful in *migraine* if used in conjunction with *gelsemium*, acting as a *prophylactic and preventing further attacks of bilious headaches*. If the attacks of migraine are frequent, use it constantly in small doses in such a way that the patient is not conscious of the influence of the drug. About $\frac{1}{8}$ gr. of extract in pill taken night and morning or the whole amount taken at night. At beginning or during the attack it should be given in a full dose until either the pain is lessened or its physiological action is marked. In neuralgias

depending upon debility in nursing women and in overworked men cannabis alone acts favourably by allaying irritability of nerve trunks. In many cases of irritative coughs and in chronic cases of winter coughs in old people provided no great outpouring or mucus is in lungs. In certain cases of phthisis it acts by quieting restlessness and anxiety. It is also very useful for summer diarrhoea of adults, with depression, frequent watery stools, vomiting and cramps, especially when combined with morphia and small doses of perchloride of mercury. It is useful in menorrhagia, as above said, especially at the climacteric period. It is further useful in impotence and gonorrhoea as used by native practitioners. Lastly it is useful in senile trembling, paralysis agitans, and may be combined with bromide of potassium in acute and chronic mania.

Dr. Russel Reynolds, after using cannabis since 1855 until now (more than 30 years) gives the following practical results :—

1. *Mental*.—In senile insomnia with wandering, where an elderly person, in the delirium form, is fidgety at night, goes to bed, gets up again and fusses over his clothes and drawers; thinks that he has some appointment to keep and must dress himself and go out to keep it; but may be quite rational during the day, with its stimuli and real occupation. Here $\frac{1}{4}$ to $\frac{1}{3}$ gr. given at bedtime is specific and is absolutely successful for months and indeed years without any increase of the dose. In *alcoholic delirium* it has occasionally been useful. It is useful in *melancholia depending on senile degeneration*. In the occasional *night restlessness* of patients with *general paralysis* and in those of “*temper disease*,” (Marshall Hall) whether in children or adults it has proved of eminent utility. In *chronic or acute mania* it is worse than useless.

2. *Sensorial*.—In all painful maladies it is most useful. Neuralgia, periodic or not, has often yielded to cannabis, no other treatment being given,—after 10, 15, or 20 years' duration; and very many such cases of *long standing* suffering from *neuralgia* have yielded to it. In *neuritis* it is the *best adjunct* to other drugs, as *mercury*, *iodine*, &c.

Migraine.—Very many victims of this malady have for years kept their sufferings in abeyance by taking hemp at the moment of threatening or onset of the attack. Very useful in the *lightning pains* of

ataric patients and in the multiform miseries of *tingling, formication, numbness* and other *paræsthesiæ* so common in the limbs of *gouty patients*.

3. *Muscular*.—In *chronic spasms*, whether *epileptiform* or *choreoid* type, it is found very useful. For example, in the *eclempsia of children* or of adults, whether from worms, teething—first or second dentition, or the cutting of wisdom teeth, in many cases successfully relied upon it alone. In many cases of *epilepsy in adults* which are either *eclempctic* or the result of organic disease of gross character in the nervous centres, it is most useful. Such cases as attacks of violent convulsions in an overfed man, who has had a heavy supper, and is attacked two or three hours afterwards while asleep, and whose attacks may recur two or three times in the hour, for a day or two, in spite of, *clearing the primæ viæ*, bromide or other drugs, but whose fits may be stopped at once by a full dose of hemp. Again there are many cases of *brain tumour* or other malady, in the course of which there occur *epileptiform convulsions followed by coma and coma by delirium* at first quiet and then violent; the delirium, time after time passing into renewed convulsions and repetition of events; these yield at once to hemp. As regards *genuine epilepsy*, it is on one hand found to be useful only in those cases where the diagnosis leads us away from a belief in the presence of the really classical disease, to the suspicion of organic lesion or of eccentric irritation; and on the other hand entirely useless, when there is no doubt of the nature of the disease. In *genuine epilepsy* when attacks of *petit mal* are exclusively present and very frequent and have been so for years, it is useless.

It is very valuable in *nocturnal cramps of old and gouty people*, and *relieves spasmodic asthma in some cases*. Is very useful in cases of *simple spasmodic dysmenorrhœa*.

Cannabis Indica is useless in tonic spasms as *torticollis*, writer's cramp, general chorea, paralysis agitans, in jerking movements of spinal sclerosis; in trismus, tetanus; *petit mal* attacks of epilepsy; acute and chronic mania; in sciatica, myodynia, whether in the neck, the thorax, &c.

CANNABINON.

Characters.—A dark-brown resin, in a semiliquid state.

Properties.—It is an useful sedative in mania, sleeplessness, &c., and is said to be more certain than the *cannabin tannate*.

Dose.—1/10 to 2 grs.

CANNABIN TANNAS.

Characters.—A yellowish brown powder prepared from *Cannabis Indica*. It is insoluble in water or ether, slightly soluble in alcohol, freely soluble in water rendered slightly alkaline.

Properties.—It is a valuable hypnotic especially so in *nervous insomnia and acute mania*. Unlike opium or morphine it does not derange the secretions, nor does it leave any toxic after effects. It is also indicated in *chordee, asthma* and as an *aphrodisiac*. It is also useful in *menorrhagia*. Pure cannabin is more soporific and prompt than the tannate.

Dose.—2 to 10 grs., may be increased to 20 grs. Average dose 4 grs., an hour before bed-time.

CAPSICUM.

Physiological actions.—A powerful local irritant, increasing the action of the heart and arteries and the flow of urine. Is particularly adapted to the utero-ovarian, respiratory and encephalic structures.

Recent Therapeutical and Practical Uses.

(1.) *Hemorrhages.*—It has been employed for many years in uterine hemorrhages, with the best results, whether the hemorrhage proceeds from fibrous tumours, fungous endometritis or epithelioma. 5 grammes of capsicum are made into 30 pills, and one pill given before each meal, or, 6 pills in twenty-four hours. It is also useful in hemorrhages from tubercles (Dr. Ategre). It has also been found beneficial in other forms of hemorrhage—*viz.*, an obstinate chronic case of dysentery which had resisted all other treatment was benefited by the use of capsicum; as also a case of internal bleeding from piles.

(2.) *Cephalalgia.*—Has been employed to overcome cephalalgia of the congestive form among arthritics (Dr. Ategre).

(3.) *Delirium Tremens*.—Has been given in 30-gr. doses every hour in delirium tremens with unvarying success for 12 years by Dr. Willis of Chester. In such cases it quiets restlessness and induces sleep.

(4.) *Alcoholism*.—It is invaluable in 5-gr. doses with 4 grs. of ext. nucis. vom. in dyspepsia, flatulence and hypochondriasis, arising from the abuse of alcohol.

(5.) *Digestive Tonic*.—Capsicum added to a tonic in cases of fever or ague, is highly serviceable. It acts by exciting the stomach and rendering it sensible to the influence of the tonic. In small doses it is also useful in atonic dyspepsia, some forms of vomiting, anorexia, biliousness &c.

(6.) *Lack of Tonicity*.—(a) Capsicum is useful in impotence and spermatorrhœa from deficient tone.

(b) In *partial paralysis*, or want of proper circulation, the following is beneficial. Take of capsicum four ounces, and lobelia four ounces ; pour on a quart of pure spirits, let it stand several days, strain off, and bottle for use. This preparation, given in teaspoonful doses has restored vitality to persons in a state of suspended animation from drowning ; also by injection in cases of locked jaw.

In any form of bruise in falling from a building, or in any congestion, the above preparation will start the circulation, and *save the necessity of bleeding*, which is often resorted to, and sometimes with fatal results. The above never fails, and is perfectly safe.

(7.) In *malignant sore throat* and *scarlet fever*, it is of the first importance, used both as a gargle and internally.

For *malignant scarlatina*, take two table-spoonfuls of capsicum and a tea-spoonful of table salt. Pour on a pint of water and vinegar, equal parts, boiling hot, let it stand an hour. Dose ; a table-spoonful every half hour, and gargle with the same. This will cure the worst cases of malignant sore throat and putrid fever. The same remedy may be used for milder cases by diluting the mixture.

(8.) *Counterirritant*.—Dr. Henry J. Buck has used tr. of capsicum for 20 years as a counterirritant :—The simplest and most efficacious way of applying it is to soak a large handful of the crushed

pods in half a pint of hot water for an hour, then strain, and bottle for use. A teaspoonful of eau-de-cologne added will help to keep the solution, or it can be well boiled after preparing. It is then applied to the affected parts on a piece of linen folded three or four times, or on lint, and covered with flannel. In this way the lotion may be kept on for hours, without vesicating, and in many cases the skin is hardly reddened. The stinging and burning sensation produced by the capsicum lotion are, after a few minutes, welcomed by the sufferer, so magically does it often remove the rheumatic or neuralgic pain for which it is being applied. In acute torticollis a cure is often speedily obtained by covering the side affected with the application. In any form of neuralgia, rheumatism, subacute gout, pleurodynia, and such like, it will be found most useful, and may be reapplied over and over again during the day and night without the fear of any vesication. A more concentrated form of the solution can be made, which is painted on the affected parts with a brush as often as is liked. This will be found useful in toothache, or for applying on the face or behind the ear. In relaxed sore-throats instant relief is often obtained by painting the uvula and pharynx. The patients should be recommended to wash their hands well after using, as, if they accidentally touch their eyes with the lotion, they will have a very unpleasant ten minutes.

ETHEREAL TINCTURE OF CAPSICUM.

Ethereal tincture of capsicum of the strength of the alcoholic tincture of the pharmacopœa, but made with officinal pure ether, instead of with rectified spirit of wine has been successful as a local application in cases of *subacute gout, in chronic gout, in chronic articular rheumatism, in muscular rheumatism, and also in some cases of bronchial catarrh and chronic bronchitis*. The ethereal tincture, by reason of the comparatively rapid evaporation of the ether can be used more freely than an alcoholic tincture as an application to the skin. Furthermore the solvent action of the ether upon the sebaceous secretion of the skin makes ether a menstruum preferable to alcohol for drugs designed to affect the cutaneous surfaces or to produce therapeutic effect through the skin. If the tincture of capsicum be used as a rubefacient in the form of a liniment, an oily admixture gives fractionability, an equal

part of some bland fixed oil may be added. Solution of ammonia or oil of turpentine, or both of them, in such a liniment, are good adjuvants, if a sharply rubefacient effect be desired. An excellent and powerful rubefacient liniment may be made of equal parts of Ethereal Tincture of Capsicum, Liq Ammonia, Oleum Terebinthinæ and Oleum Lini. The ethereal tincture may also be applied to the skin upon spongio-piline, (Sir James Sawyer).

CARBONEI BISULPHIDUM.



Syn.—*Disulphide of Carbon ; Bisulphide of Carbon.*

Preparation.—It is prepared by heating together fragments of charcoal to redness in a retort ; into which dip a tube reaching to the bottom of the charcoal. From time to time sulphur is dropped through the tube, which is closed again immediately. The sulphur and carbon gradually combine, and the bisulphide distils over into the receiver, which is kept cool with ice. It is at first yellow, from excess of sulphur, but by being re-distilled several times it is obtained in a state of purity.

Characters and Tests.—A clear, colorless, highly refractive liquid, very diffusive, having a strong, characteristic odor, a sharp, aromatic taste, and a neutral reaction. It is insoluble in water ; soluble in alcohol, ether, chloroform, and fixed or volatile oils. sp. gr. 1.272. It vaporizes abundantly at ordinary temperatures, and has never been frozen, is highly inflammable, boils at 114.8°F, and, when ignited, burns with a blue flame, giving off sulphurous and carbonic acid gases. It should not affect the color of blue litmus moistened with water (abs. of sulphurous acid). A portion evaporated spontaneously in a glass vessel should leave no residue (sulphur). Test solution of acetate of lead agitated with it should not be blackened (abs. of hydrosulphuric acid).

Therapeutics.—It is said to be stimulant, diaphoretic and emmenagogue. The vapour is anæsthetic. Dr. James T. Whittaker speaks very highly of the singular efficacy of bisulphide of carbon in the treatment of carcinoma of various organs, especially of the stomach. He says : “ We can arrest the progress of putrefaction and fermen-

tation, or even prevent the developement of these processes by certain agents which have the power of preventing the developement of, limiting the growth of, or destroying the fully-matured vegetable and animal germs upon which these processes depend. Salicylic and carbolic acids, agents of well-known powers against putrefaction ; and the hyposulphites, especially that of soda, are equally effective against fermentation. Each of these processes consists, in essence, of swift multiplication of peculiar cells."

Two cases are reported by Dr. Whittaker : one, a woman having secondary cancerous tumors in various parts of the body, who had two months before suffered amputation of the breast for the same disease, and who had cancerous cachexia, cancerous deposits in the stomach, and probably in the liver also. Any kind of food was vomited, and prostration was complete. The patient was kept alive and free from pain by the use of 6 grains of morphia daily, $1\frac{1}{2}$ grains being the smallest dose that would give her temporary relief from the indescribable distress.

"I gave her," to quote his words, "at first two drops of the bisulphide of carbon in a teaspoonful of alcohol three times a day. This dose I afterwards increased to four drops in almond oil. From almost the first dose, in virtue of the anæsthetic action of the drug, a change in her symptoms began to be observed. There was complete relief of the vomiting at the time, and there have been but three attacks since. The appetite toned up to become almost insatiable, though but little food can be taken at a time, on account of a feeling of distension. The return of strength was gradual but marked. Last week the patient spent the day out among some friends, and this week she spends entire in Avondale. It was found impossible to do without the morphia altogether, but the quantity has been gradually reduced from six to little over one grain per day. The local masses have not changed to any great extent. No new ones have developed, but several of the old ones have flattened somewhat. None of them are painful."

A second case is reported of a woman having what was diagnosed to be cancerous stricture of the pylorus, in which vomiting was a prominent symptom, and was quieted only by morphine. She was also given two drops of bisulphide of carbon three times daily. "On the evening of the following day she had another attack of pain and

vomiting, which was checked by morphia given subcutaneously. Since that time (two weeks to the date of the report), she has taken the remedy regularly. During this time no other medicine has been given *per os* or subcutaneously. All this time she has taken egg-nog, milk, wine, and beef-tea, and has never vomited any of them. She relishes her food, but still experiences some uneasiness after eating. She has gained both appetite and strength, and is now able to walk about the house. The sallow skin, the dilated stomach, and the tumor still remain. I do not by any means consider my patient cured of her disease, but it is unquestionably better held in check by the bisulphide of carbon than by any remedy hitherto employed."

"It was the knowledge of the great solvent properties of this agent which first led me to give it a trial. I am sure I am very far from vaunting it as a specific for carcinoma. I am not certain that its virtues are not dependent upon its wellknown anæsthetic properties (I am informed by ship surgeons that it is the best known remedy for sea-sickness), but even if this be true which I very much doubt, because its efficacy is so long continued—it is a remedy of the greatest value in the relief of symptoms as distressing and painful as exist in any disease in our nosology."

M. Guillaumet, who has experimented extensively upon the local employment of carbon bisulphide, says, in reply to objections that have been made to its supposed poisonous character, and on account of its smell, that as regards the first, it may be freely inspired without harm, and for the second, that it may be deodorized by peppermint essence and tincture of iodine; the latter augmenting its beneficial effects. He mentions cases in which it has been of value when used in lupus of the face, and in strumous and syphilitic ulcerations of the female generative organs.

Dose.—2 to 6 drops in mucilage or on sugar.

CARLSBAD SALTS.

Composition.—The principal ingredients, which produce the therapeutical effects of the Carlsbad Waters or Salts, are sulphates of

soda and Potash, chloride of sodium and carbonate of soda &c. Artificial approximate ingredients contained in 5 grammes of salts are :—

R Sodæ Sulphas grs. 40.

Pot. Sulphas grs. 18.

Sodii. Chloride grs. 16.

Sodæ Carbonas grs. 4.

Calcis Carbonas.

Ferri Carbonas.

Alumini Phosphas.

Silica,

} Very small quantities.

Therapeutical Properties.—(1.) Carlsbad salts or water alleviate pain and cramps, as a result of *ulcer of the stomach, cardialgia, gall-stones, colic &c.*

(2.) They increase the secretion of the mucous membranes of the respiratory passages, the stomach, and the intestines, and promote the evacuations, which are regular, loose, easy and free from pain. If given in small doses they limit the evacuations in those cases of *chronic diarrhœa* depending upon the acidity of the stomach.

(3.) They also increase the secretion of urine in small doses.

(4.) They *regulate the secretion of the bile* even in instances where the illness does not originate in liver complaint, as in the case of simple jaundice, caused by violent emotions. They *regulate the anomalous production of sugar* and are reputed for the treatment of *diabetes mellitus*. They influence the *absorption of fatty formations*. General accumulations of fat as well as physiological fatty deposits (as for instance in case of *fat liver*) are often quickly dissolved by Carlsbad waters.

(5.) They exercise a considerable influence in diseases originating in *defective oxidation*, the consequence of insufficient elimination of effete matters as *gout, uric acid and calculi*.

(6.) They are useful in diseases of the *spleen*, as *hyperæmia* arising from intermittent fever and the effects of a residence in marshy districts or hot climates.

(7.) They are useful in *hyperæmia of the liver*, fat liver, and jaundice produced by catarrh of the biliary passages, gallstones &c.

(8.) They are similarly useful in *gravel, chronic catarrh of the kidneys and bladder*.

(9.) Indicated in *chronic hyperæmia of the prostate*, resulting from interrupted circulation in the intestines, constipation, hemorrhoids &c.

(10.) Useful in *early stages of gout, and chronic uterine catarrh*.

(11.) In *Bright's disease* of the kidneys, the use of Carlsbad salts is *forbidden*.

Dose.—75 to 150 grs. or 1 to 2 teaspoonfuls, dissolved in lukewarm water and taken in the morning, fasting, shortly before breakfast.

Carlsbad water, $\frac{1}{2}$ to 2 wineglassfuls. (In cases of *stomach complaints*, small doses are generally recommended, whilst in diabetes and gout a much greater quantity is required).

CAROBA.

Syn.—*Jacaranda Procera*, Sprengel; *Bignonia*, Aubl.; *J. Tomentosa*; *Cyeistax Antisyphilitica*.

Part employed.—The leaflets.

N. O.—*Bignoniaceæ*.

Habitat.—Brazil.

Properties.—The leaflets are alterative, diuretic, sudorific and tonic. Hence its value in the treatment of syphilis in all its forms. The Caroba may be combined with iodide of potassium with good results, in cases distinguished by pains in the limbs. Its principal effect seems to be directed to the cure of old syphilitic ulcers, to which it may be applied topically, in addition to internal treatment. Also indicated in gonorrhœa and other urinary diseases.

Preparations and Doses.—Leaflets 20 to 60 grs.

Fl. Ext. 15 to 60 mins.

CASCARA AMARGA.

(PICRAMNIA ANTIDESMA.)

Syn.—*Honduras Bark*; *Picramnia Bark*.

Part employed.—The Bark.

N. O.—*Terebinthaceæ*. (According to some, *Picramniæ* and *Anacardiaceæ*.)

Habitat.—*Mexico ; West Indies.*

Characters.—The pieces of bark vary from five to six inches in length, firm and heavy, of a brownish-gray colour. The outer layer of the bark is striated and much divided up by longitudinal fissures. The true or inner bark of the trunk varies from one-quarter to three-eighths of an inch in thickness. The freshly cut edge of the dried bark is hard, and of the color of liquorice powder, while the color of cut bark, after being softened in water, has a greenish-yellow tint. In taste the chewed bark imparts a moderate degree of bitterness with a slightly yellow saliva.

Therapeutics.—The bark is reputed for its tonic, alterative and antisyphilitic properties. It is indicated in those old ill-conditioned syphilitic ulcers, and chronic skin diseases. It has been employed with most satisfactory results in cases that have resisted all the ordinary remedies, and it may be used to advantage in combination with the usual mercurial treatment. It was used in several cases of chronic skin affections, and in the eruptions of the advanced stages of syphilis, more especially in those cases where the pustular variety of syphiloderm prevailed mostly, and where debility was one of the points to which treatment was to be more decidedly employed. In these conditions of debilitated system it had a good effect in restoring the appetite, which in some of the cases was wanting to such an extent that the patient had become enfeebled and nervous, while the chronicity of the disease seemed to have been fully established (A. Atkinson, M.D.). Cascara Amarga was first brought to public notice as a remedy for syphilis by Prof. A. Atkinson, of Baltimore, who reported several cases of constitutional syphilis under his care as having been cured by it. It was subsequently employed by other medical gentlemen, who reported as favourably as the Prof. A. Atkinson. Out of many such reports, the following are few select ones :—

Case 1. This was a case of gummy tumor of the leg—just over the body of the tibialis anticus muscle and to the right of the spine of the tibia. This patient was in fair health, but had a very irritable condition

of stomach. His avocation necessitated constant standing at the counter. He had one large cicatricial patch on the same leg, just above the seat of the present trouble, as the result of an old gummy tumor, which had softened some years before. The periosteum was tender and somewhat swollen. The patient said that many years before (twelve years at least) he had what physicians called secondary syphilis though the eruptions were few and no trouble had been observed about his throat.

He had suffered with this painful tumor of the leg as much as two months before applying for relief—the pain apparently being augmented from his having to keep the erect position all day. He had applied sundry salves which had been suggested, but all to no purpose. He was put on the iodide of potassium, eight-grain doses, three times a day, to be taken in one teaspoonful of compound tincture of cinchona bark, either in cold coffee or sweetened water. In a couple of days he experienced so much irritation of the stomach that the iodide was stopped. This, he said, had repeatedly injured his stomach. He gave it a fair trial, nevertheless. I then put him on five-grain doses of the iodide of sodium three times a day, in the tincture of cinchona bark. This, in turn, soon nauseated him. So, to test the stomach fairly, I directed simply the compound tincture of Peruvian bark, which I found he stood very well, but as this had no alterative properties, I tried the iodide of sodium again in the fluid extract of cascara amarga bark. Again he was nauseated, and I determined to use the fluid extract without the salt. This I prescribed in doses of forty drops three times a day, to be taken in plain or sweetened water. He kept up the fluid extract for two months—using a salve compounded of twenty grains of calomel to one ounce of vaseline, to be rubbed over the tumor. He took about one pint of the fluid extract and his appetite improved at once during its administration, and his strength correspondingly increased. The gummy tumor was red and painful, and indeed threatened to slough at the time he began the use of the cascara amarga, and though he was constantly on his feet the redness gradually disappeared and the pain and heat left entirely.

It is now more than one year since he ceased to use the medicine and there has been no return of the trouble in any way. In this case

there certainly was shown the tonic effect of the drug, while the favorable change accomplished seems to have been through its alterative influence.

Case 2. A man had syphilitic eruptions following on the fourth month after the appearance of a single hard chancre. The chancre healed up kindly. The sores on the body were of an open kind (large pustular variety, no doubt) and he stunk so that the captain of the vessel, of which he formed one of the crew, put him ashore at Tobasco, in Mexico. His body was covered with these sores, and the patient was much enfeebled thereby. He was taken care of for humanity's sake, and put on a strong tea made of the bark with rum enough to keep it from spoiling. He took this tea and nothing else, and at the end of the sixth week the pustules had dried up. He continued to drink the tea, however, for three months longer without the reappearance of the eruption, and at the end of that time left the village in a Norwegian vessel, apparently well. This man took the tea for four months and a half.

Case 3. A native Mexican woman in Goatzocoalcas had syphilitic eruptions following six months after a solitary chancre. Dr. P. treated her for months without benefit. My informant found her lying naked in the bed because she could not bear the weight of even the small amount of clothing worn by the natives. Her physician said she must die, and that he could do no more for her. She was put on forty drops of the fluid extract of cascara amarga for three months. In ten days she felt better, and at the end of three months she was well enough to attend to her work as usual, the only sore then being one on the inside of the right heel, though she had been covered with ulcers, which from their foetor prevented others staying in the room with her.

Case 4. C. L., æt. 58 years, contracted chancre in Liverpool thirty years ago, which healed without trouble. Some years after he broke out with multiform eruptions, without ulcerations, on the arms, neck and chest. These eruptions were chiefly of the scaly variety. They disappeared slowly leaving copper colored spots. After treatment these blotches left him to break out again in other parts of the body.

Three years since he went out to live in Mexico, where my informant first saw him stripped for the bath, and noticed the copper-colored

blotches, resulting from what appeared to be the subsidence of tuberculous syphilides. He learned the full history of his case and put him on the fluid extract of cascara amarga. This he took in forty-drop doses three times a day for two months and a half, at the end of which time no further signs of the disease were visible. The remedy was continued for about three months longer, and now, after a lapse of three years, the patient has no signs of the trouble, as far as is known. Here the fluid extract was kept up for five months and a half faithfully, with increased appetite and general improvement in every respect.

Preparations and Doses.—Fl. Ext. 30 to 60 mins.

Solid Ext. 5 to 10 grs.

CASCARA SAGRADA.

Syn.—*Rhamnus Purshiana*; *Sacred bark*; *California Buckthorn*.

Part employed.—*The Bark*.

N. O.—*Rhamnaceæ*.

Habitat.—*Pacific slope, North America*.

Rhamnus Purshiana should not be confounded with *Rhamnus Frangula*; both of them can be distinguished by the following characters:—

R. Purshiana, D. C. (*Cascara sagrada*).

R. Frangula, L. (*Buckthorn of Europe*).

Plant.—Grows in river bottoms and plains as a small tree, the trunk often nearly a foot in diameter.

Plant.—Grows usually as a shrub in hedge-rows, etc., scarcely more erect than the well-known *R. catharticus*.

Leaves, 3 to 5 inches long. Margins denticulate serrate. Under surface strongly pubescent. Lateral veins 14 to 16, prominent.

Leaves, $1\frac{1}{2}$ to 3 inches long. Margins entire (or barely sinuate?). Under surface sometimes minutely downy. Lateral veins 10 to 12; merely nerve-like.

Inflorescence.—In umbels of 10 to 20 flowers. Flower-stems longer than the leaf-stems, pubescent.

Inflorescence.—Only 2 or 3 together in the axils. Flower-stems short and smooth, or nearly so.

Anthers yellowish.

Anthers purple.

Fruit black, pear-shaped.

Fruit purple, rounded.

Seeds, three.

Seeds, two.

Habitat.—Rocky Mountains and the Pacific coast.

Habitat.—Europe and Asiatic Russia, except the north.

Characters.—In quills or incurved pieces of varying lengths and sizes, the bark itself being from about one twenty-fifth to one-eighth of an inch thick, smooth or nearly so externally, covered with a greyish-white layer, which is easily removed, and frequently marked with spots or patches of adherant lichens. Internally reddish brown or yellowish brown, and nearly smooth, although somewhat striated longitudinally. No marked odor ; taste bitter.

Physiological actions.—It seems to act as a tonic to the pneumogastric and sympathetic supply of *primæ viæ*, aiding the general process of digestion and assimilation. It chiefly acts by increasing the peristaltic action of the intestines and stimulates the secretory apparatus of the alimentary canal and hence restores the bowels to its normal activity.

Therapeutical actions.—(1.) Cascara sagrada in full doses, can be given as a *simple purge*, but in *habitual constipation*, quite small doses thrice a day a little before meals, will generally induce the bowels to act with regularity, certainty, and without griping. Its laxative action resembles to that of *buckthorn berries* and *black alder bark* (*Rhamnus Frangula*.) It improves the appetite and digestion, and acts as a laxative by increasing the secretions of the gastro-intestinal canal, and in this combination of tonic and cathartic effects, cascara resembles *rhubarb*.

(2.) It may be prescribed to *counteract the constipating effect of sedatives or narcotics with success*.

(3.) It is chiefly indicated in cases, where *habitual constipation* depends upon the derangement of the intestinal glands with consequent defective or perverted biliary and intestinal secretions, associated with an adynamic state of the muscular and nervous forces of the alimentary canal, involving congestion of portal circulation and of gastro-intestinal mucous membrane.

(4.) It is of imperial service in cases where chronic constipation is associated with *hemorrhoids*, where it soothes the rectal mucous membrane instead of irritating it.

(5.) It is best indicated in *hepatic torpor, catarrhal jaundice, and atonic conditions of stomach and intestines.*

(6.) Cascara sagrada may be advantageously combined, according to circumstances, with *Lacto-peptine, Acid hydrochloric dil., Acid nitric dil., Tr. nux. vom., Liq. strychnæ, Glycerine, Malt extract, Aromatic syrup, and Berberis aquifolium.*

(7.) It has the property of curing rheumatism even when Sodii Salicyl has failed. Dr. H. T. Goodwin has used it, in a number of cases of *subacute and chronic rheumatism*, without combining it with Salicylate of soda; others have used a combination of both. J. P. Martin suggests combining the two remedies as follows:—Sodii salicyl. 15 grs.; Ext. Cascar Sag. Liq. 10 mins; Aq. Aurant. Flor. 1 oz. For one dose. To be taken every 3 or 4 hours. By this combination, not only the effect of salicylate is *enhanced*, but also the mixture is rendered more *palatable and clear.*

Preparations and Doses.—Powdered Bark, 20 to 40 grs.

Fl. Ext., 10 to 60 mins., as a laxative.

„ „ $\frac{1}{2}$ to fl. drs., as a cathartic.

Solid Ext., 3 to 4 grs., as a laxative.

„ „ 6 to 14 grs., as a cathartic.

Tr. (1 to 8 Pf. Sp.) 1 to 2 fl. drs.

CASCARA CORDIAL ELIXIR. CASCARA SAGRADA OR (Parke, Davis):—

Each litre of Cascara Cordial contains the result of the following formula:

R Cascara sagrada bark (true Rhamnus Purshiana)...	100 grms.
Berberis aquifolium root, true	37 grms.
Diluted alcohol	233 grms.
Coriander seed	17 grms.
Angelica root	2 grms.
Oil of anise,	
„ orange	0.13 grms.
„ cassia	0.005 grms.
Granulated sugar	288 grms.
Fluid extract licorice	12 grms.
Tincture of cudbear	q. s.

Water, q. s. to make of finished preparation one litre.

Directions.—Make a decoction of the cascara and water at 212° F. and filter, then dissolve the sugar in resulting liquid. Pack the coriander, angelica and berberis (in coarse powder) in a percolator, and displace with the alcohol, in which the oils have previously been dissolved. Lastly, mix the cascara solution, the aromatic tincture and the tincture cudbear together, and add the fluid extract licorice.

Dosage.—As a laxative, one teaspoonful twice a day, night and morning.

As a cathartic, one tablespoonful twice a day, night and morning.

For constipation and dyspepsia, from one-fourth to one teaspoonful four times a day for a week. If no improvement ensues, increase the dose till a normal or laxative passage is obtained, when the dose should be gradually decreased in amount and frequency until the benefit is permanent.

CAULOPHYLLUM THALICTROIDES.

Syn.—*Blue Cohosh, Squaw Root.*

Parts employed.—*The Rhizome and the rootlets.*

N. O.—*Berberidaceæ.* *Habitat.*—*United States.*

Characters.—Rhizome about four inches long, and about one-fourth to two-fifth of an inch thick, bent; on the upper side with broad, concave stem-scars, and short, knotty branches; externally gray-brown, internally whitish, tough and woody. Rootlets numerous, matted, about four inches long, and one-twenty-fifth of an inch thick, rather tough; nearly inodorous; taste sweetish, slightly bitter and somewhat acrid.

Physiological actions.—It has a special influence upon the utero-genital system, giving tone and energy to the uterine apparatus, and producing a sedative effect upon the motor nerves sympathetic with uterine irritation.

Therapeutical actions.—It has an antispasmodic, alterative, emmenagogue, parturifacient, diaphoretic, diuretic, and vermifuge properties.

It has proved of much efficacy in *atonic conditions of the uterus, congestive dysmenorrhœa, prolapsus uteri, passive hemorrhages, &c.*

It is very efficient, for relieving *after-pains*, particularly when combined with cypripedin and scutellarin. As a preparatory parturient given in moderate doses, every night at bedtime for several weeks previous to confinement, it allays cramps, false pains and other unpleasant symptoms. It is also beneficial for checking uterine contractions in cases of *threatened abortion and in cramp of the uterine muscles*. While in full doses repeated every 30 to 60 minutes, caulophyllum is used to *expedite delivery in cases of debility, fatigue, or want of uterine energy, and in cases where ergot is not available*. Has been successfully employed for removing the discoloration of the skin of the face common in women with menstrual irregularities or uterine disease, and in *affections of the motor nerves sympathetic with uterine irritation*. In diseases of the utero-genital system, the effects of caulophyllum are markedly enhanced, if given combined with Pulsatilla.

Lastly caulophyllum is indicated in rheumatism, dropsy, rheumatism, leucorrhœa, vaginitis, urethritis, hysteria, hysteritis, aphthous sore mouth and to expel worms.

Preparations and Doses.—Powdered Rhizome, 15 to 40 grs.

Fl. Ext., 10 to 30 mins.

Solid Ext., 2 to 4 grs.

Tr. (1 to 8 Pf. Sp.) 1 to 2 fl drs.

Caulophyllin (concentration) $\frac{1}{4}$ to 1 gr.,
as an alterative, uterine tonic and diuretic; 2 to 4 grs., as parturient and for other purposes.

CEDRON SEED.

SIMABA CEDRON.

Part employed.—The Seeds. N. O.—Simarubaceæ.

Habitat.—Central and South America.

Therapeutics.—The seeds have long been valued in New Granada and adjacent countries as a remedy for the bite of poisonous animals, serpents and insects. The natives of Central America never venture into forests unless supplied with a few of these seeds, which they cut into thin transverse sections, and apply them to the wounds, and also

take it internally. Fever patients cut the seeds into pieces the size of a pea, which they swallow gradually chiefly during the period of apyrexia. It is said to have been useful, *in intermittent fevers*, instead of quinine and arsenic, and sometimes succeeds even when these drugs fail. Cedron possesses *decided antiperiodic properties*, and is therefore applicable in the treatment of *periodic diseases*, in place of quinine; and that it is less likely, than quinine, to produce the aggregate of *encephalic or neuropathic phenomena*. It has also been found useful in *spasm of the stomach and bowels*, and *dyspeptic affections*. Dr. Guier has used it effectually in cases of poisoning by the bite of a serpent, and in cholera morbus, colic, and neuralgia of the face. Dr. F. B. Thompson (London) found it useful in *gout*. Dr. Purple, of New York, has found it useful in intermittent fever, and believes it to be a valuable antiperiodic. It appears to have similar qualities to *quassia* to which it is allied botanically. The active principle, which was discovered by M. Lecoy, has been named *cedrine*.

Preparations and Doses.—Seeds, 1 to 10 grs. as a tonic and stomachic; 10 to 30 grs. as an antiperiodic.

Fl. Ext., 1 to 10 mins.

N.B.—As large doses produce griping and diarrhoea, it is better not to exceed 10 grs., as an initial dose in fevers, and 1 to 2 grs. for stomachic affections.

CERIUM.

(1.) The soluble salts, *viz.*, the nitrate and the citrate of cerium, are considered more effective than the insoluble oxalate.

(2.) Cerium is valuable in the *nausea and vomiting of pregnancy* and in similar symptoms associated with dysmenorrhœa, flexion and other uterine disorders, and with *hysteria* from anxiety, grief, overwork and the like.

(3.) It is also used with benefit in *phthisical and atonic dyspepsia*, *gastric ulcer* and in the *violent morning cough* accompanied with dyspnoea.

(4.) Cerium oxalate is most useful in irritant coughs of earlier stages of phthisis and even in third stage ; useful for laryngeal coughs and for vomiting of laryngeal and pulmonary phthisis.

(5.) For chronic bronchitis, whooping coughs and in coughs of measles and coughs of obscure origin it is very beneficial. It is especially useful for chronic coughs but in acute bronchitis it often moderates coughs and lessens discomfort. Also useful in spasmodic asthma. In these cases of coughs it should be given in 5 gr. doses in the morning or at bedtime or at both times with intervening doses as required. The dose may be increased unless relief be obtained to 10 grs. or more several times a day. Small doses have no effect whatever.

(6.) CERII VALERIANAS is useful in vomiting of pregnancy in doses of $\frac{1}{2}$ to 2 grs.

(7.) CERII SALICYLAS is useful in rheumatism in doses of $\frac{1}{2}$ to 2 grs.

CHAMOMILE.

Syn.—*Anthemis Nobilis* ; *Bábuná-na-phula* (Guj.) ; *Bábune-ké-phula* (Hind.) ; *Babunáh* (Pers.).

Parts employed.—The Flower-heads and Oil. *N. O.*—*Compositæ*.

Habitat.—Europe, United States, Persia &c. (Cultivated in some places in India).

Characters, Composition, &c.—The common chamomile is a perennial plant, flowering from June to September, and growing on open gravelly pastures and commons. It is cultivated for London market at Mitcham and in some parts of Derbyshire, and also extensively so for the sake of its flowers. The *capitulæ*, which are commonly termed flowers, are each composed of a number of tubular yellow florets, arranged on a receptacle, and surrounded by a circle of ligulate white florets. The single flowers are to be preferred for medical purposes, as the central yellow florets contain much more volatile oil than the white ones. Both leaves and flowers possess a strong, agreeable odor, and a somewhat nauseous bitter taste. The principal constituents of flowers are volatile oil, tannin, and bitter resinous matter.

Therapeutics.—Chamomile flowers are a mild tonic, aromatic stimulant and stomachic, and are useful in colic, flatulence, indigestion

and other dyspeptic symptoms depending upon dilatation of the stomach, and in persons suffering from chronic alcoholism and indiscretion in diet, and sick headache and other biliary derangements. *Cold infusion* of the flowers, given *in small doses*, acts as a mild stomachic tonic in *summer diarrhœa* of infants, children and adults ; *taken hot*, the infusion acts as a *diaphoretic*, and taken *in large doses*, it is an *emetic*.

Chamomile flowers are also beneficial in cases of *intermittent fevers with biliary derangements* and in the convalescent stage after fever and bilious affections.

On account of their power of *lowering reflex excitability*, they are of decided value in nervous diseases of women, and particularly in *hysterical persons and women suffering from cough and other pseudo-neuralgic affections*, spasmodic asthma and whooping cough. Externally they are useful, as anodyne fomentations over painful parts, and as an excellent poultice over ill-conditioned ulcers.

The oil possesses a mild stimulant, antispasmodic and germicidal properties, and is frequently used in the preparation of tonic and cathartic pills, and to relieve flatulence, griping and eructation.

Preparations and Doses.—Flowers, 10 to 30 grs.

Inf., 1 to 2 fl. ozs. as a stomachic, 5 to 10 fl. ozs. as an emetic.

Fl. Ext., 30 to 60 mins.

Solid Ext., 2 to 10 grs.

Oleum, 1 to 4 mins.

CHAULMOOGRA.

Syn.—*Gynocardia Odorata*.

Part employed.—*The Oil from the Seeds.*

N. O.—*Bixaceæ.* *Habitat.*—*Malayan Peninsula.*

Characters.—The seeds are from 1 to $1\frac{1}{4}$ inch long, more or less angular or flattened by mutual pressure. The testa is thin, brittle, smooth and of a dull-grey colour ; the albumen is copious, white when fresh, but brown in the dried seeds, and oily. The odour of the seed is nauseous and peculiar. The oil is sherry-yellow, with sp. gr. .9450 at 85° F.

Therapeutics.—The inhabitants of South-Eastern Asia have long held this agent of great value as an alterative tonic in the treatment of leprosy, skin diseases of a chronic scaly variety, scrofula and rheumatism. It was the reports of its action in that country which led to its introduction into England and subsequently into the United States. The chief experimenter in England was Dr. William Murrell, the well-known physiological therapist, who was induced by a study of its properties, to test its value in *consumption*. The result as deduced from a series of upwards of a hundred tabulated cases, while affording very little hope of permanent improvement in this disease, demonstrated very clearly the possession of *alterative tonic* properties, and subsequent trials in scrofula have very thoroughly established its value in this affection. From 2 to 4 ozs. of the oil should be rubbed into the chest once a week; also internally small dose of 3 drops to be begun with and to be gradually increased to 15 mins, as the patient becomes habituated to it, and to be given in capsules after meals. Under its influence the cough becomes less troublesome, and improvement in the general symptoms takes place. But now a days its use as regards this affection has been abandoned. Children as a rule take well chaulmoogra oil, and it is used both internally and externally in *scrofula and marasmus*.

The most prominent effects of this oil have, however, been observed in its employment in *tubercular and anæsthetic forms of leprosy, psoriasis, lupus* and allied skin affections. It is also beneficial in *old standing eczema* with thickening of the skin, and is applied pure or mixed with three parts of vaseline. It is also useful in *irritation of piles, and in obstinate cases of scabies and ringworm*.

In the form of a liniment it is a valuable external application in *rheumatic arthritis, rheumatic gout, stiff joints, and sprains* both in man and animals.

For *neuralgia* and *sciatica*, it is mixed with Chloroform and Camphor, or, with an equal weight of a saturated solution of Menthol in Chloroform, and rubbed over the painful part; this latter combination (chaulmoogra oil, chloroform and menthol), is very successful for *facial neuralgia, toothache and sciatica*, when rubbed well into the parts. When pain is confined to the nerves of the face, then a piece of cotton

is saturated into this solution, and placed in the ear ; if in jaw or tooth, then place it against the gum and well rub in the face, and the relief will be instantaneous.

Dose.—5 to 15 mins, to be given after meals ; It is best to begin with 4 mins. of the oil, and gradually increase it to the limit of toleration, viz., $\frac{1}{2}$ to 1 dr.

ACID GYNOCARDIC.

Characters and Tests.—An acid principle contained in chaulmoogra oil to the extent of 11·7 per cent. It crystallizes in yellowish plates, melts at 85° F., has an acrid burning taste and strikes a green colour with sulphuric acid.

Therapeutics.—It possesses all the virtues of the oil, but it rarely produces nausea when internally administered, and has no taste and odour of the oil. *In eczema of the face*, and when it shows itself in dry patches, Dr. Cottle has found an ointment of Gynocardic acid of from 15 to 25 grains to the ounce of vaseline, almost a specific, when most of the ordinary applications in use only served to aggravate the local mischief. The ointment should be applied 3 or 4 times daily, so as to keep the affected parts lubricated with it. Again, *in eczema of the hands* such an ointment is the most generally useful application with which he is acquainted. Internally administered it has the same beneficial effects, and indicated in cases, like chaulmoogra oil. It is well to begin with half a grain of the acid in pill, taken after food, twice or thrice daily, and gradually increased to 3 grs.

Dose.—1 to 3 grs., in pill after meals.

CHEKAN.

MYRTUS CHEKAN, EUGENIA CHEKEN.

Syn.—*Cheken*, *Chequen*, Aroyan. *N. O.*—*Myrtaceæ*.

Part employed.—*The Leaves.* *Habitat.*—*Chili.*

Therapeutics.—The leaves possess an antiseptic, demulcent, expectorant, diuretic and tonic properties. It is introduced as a remedy in *chronic catarrhal inflammations of the respiratory mucous lining*, *purulent inflammation of the bronchial tubes and catarrh of the bladder.*

Dr. William Murrell, especially commends it in *winter cough*, that annoying and irritable affection of elderly people. Dr. Dessauer, chief of staff of the German hospital, of Valparaiso, speaks very highly of its effects in the purulent form of bronchitis, and the testimony of others who have tested its virtues, tends to establish it as a valuable addition to the list of remedies in chronic bronchitis. Has been used for some years as *an inhalation in diphtheria, laryngismus stridulus and as an injection in certain affections of the mucous membranes*. Its chief action is to aid digestion, allay cough, facilitate expectoration and stimulate kidneys to action. Has been also employed in phthisis, and many patients, who had repeated attacks of pulmonary hemorrhage, recovered and gained strength and flesh in a marked degree. It has been effectively used for *chronic bronchitis* of many years' duration.

Preparations and Doses.—Leaves, 1 to 2 drs.

Fl. Ext., 1 to 3 fl. drs.

Inf. (1 to 10), $\frac{1}{2}$ to 2 fl. ozs.

CHENOPODIUM ANTHELMINTICUM.

Syn.—*American Wormseed.* *Habitat.*—*United States.*

Part employed.—*The Seeds.* *N. O.*—*Chenopodiaceæ.*

Characters.—The fruit, from which seed is obtained, is nearly one-twelfth of an inch in diameter, depressed-globular, glandular, dull greenish or brownish, the integuments friable, containing a lenticular, obtusely edged, glossy, black seed. It has a peculiar, somewhat terebinthinate odor, and a bitterish, pungent taste.

Therapeutics.—The seeds are largely employed in North America for their *anthelmintic properties* in destroying the *Ascaris lumbricoides*. They also possess to some extent antispasmodic qualities. The herb generally has similar properties. These effects are due to the presence of a highly odorous volatile oil.

Preparations and Doses.—Powdered Seeds, 10 to 40 grs.

Fl. Ext., 15 to 60 mins.

Oleum, 10 to 20 mins.

Decoct. (1 to 20 of milk), fl oz. 1 to fl ozs. 3.

CHIMAPHILA UMBELLATA.

Syn.—*Prince's Pine, Pipsissewa, Umbellated Wintergreen, Pyrola, Ground Holly &c.*

Part used.—*The Plant.* *N. O.*—*Ericaceæ.*

Habitat.—*United States ; also certain parts of Europe and Asia.*

Characters.—The leaves are about 2 inches long, oblanceolate, sharply serrate above, wedge-shaped and nearly entire toward the base ; coriaceous, smooth, and dark green on the upper surface. They are nearly inodorous, and have an astringent and bitterish taste. The fresh leaves when bruised emit a peculiar odour.

Therapeutical actions.—The leaves possess alterative, tonic, diaphoretic, detergent and diuretic and slightly astringent properties. They have a specific influence upon the lymphatics, carrying off effete matter, and stimulate the liver. It is a popular remedy in *rheumatism, gout, gravel, dropsical affections, suppression of the urinary organs, scrofula and chronic ulcers.*

Its long continued use will cause absorption of testes and mammæ.

Preparations and Doses.—Leaves, 20 to 60 grs.

Fl. Ext., 30 to 60 mins.

Solid Ext., 3 to 10 grs.

Decoct. (1 to 30 of water and boiled to 20), 1 to 2 fl. ozs.

Chimaphilin, 1 to 5 grs.

CHIONANTHUS VIRGINICA.

Syn.—*Fringe Tree, Old Man's Beard.* *N. O.*—*Oleaceæ.*

Part used.—*Bark of the Root.* *Habitat.*—*United States.*

Therapeutics.—The root-bark possesses an alterative, aperient, cholagogue, diaphoretic, diuretic, resolvent and somewhat narcotic properties. *It acts by stimulating the lymphatic system and as a mild diaphoretic and diuretic.*

It has been extensively used in America for the last many years, as a specific in jaundice, and as an aperient and cholagogue, &c. It is one of the best, say, specific remedy that has ever been prescribed by

Dr. Henning in the United States in cases of *jaundice*. His favourite formula has been, ext. chionanth. liq., oz. i., ext. podophylli. liq., dr. i., pot. acetatis, drs. 4, aquæ q. s. ad ozs. 4 ; a teaspoonful to be given every 3 to 6 hours.

I have also used it successfully without any failure, in all the cases of *jaundice*, for the last nine years. Chionanthus has been indicated in all cases where there is a *yellow jaundiced condition of the skin with congestion of portal circulation*. The above combination of chionanthus, podophyllin and acetate of potash *has never failed to relieve all jaundiced conditions*. However other remedies may be indicated, as circumstances may demand, because jaundice, as we are all aware, is but a symptom and not a disease. Chionanthus is also beneficial in *bilious and remittent fevers*, and is an excellent tonic after convalescence from debilitating diseases. Externally it is useful as a poultice over ulcers and inflammatory swellings.

Preparations and Doses.—Root-bark, 30 to 60 grs.

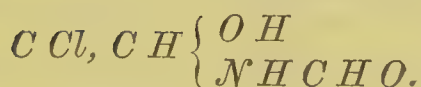
Fl. Ext., 15 to 60 mins.

Solid Ext., 3 to 12 grs.

Tr. (1 to 8 Pf. Sp.) $\frac{1}{2}$ to 2 fl. drs.

Chionanthin., 1 to 3 grs.

CHLORALAMID.



Characters.—It is the product of the admixture of chloral anhydrid and Formamid. It occurs in colourless crystals, soluble in 9 parts of water, $1\frac{1}{2}$ part of spirit 68 overproof; taste mild, slightly bitter and not caustic. In alcoholic or watery solution it remains unchanged with the addition of nitrate of silver; just as little will weak acids cause any alteration, while caustic alkali will quickly, and a carbonate or bicarbonate of an alkali will slowly, decompose the solution. Therefore it should not be given with alkalies, but in weakly acidulated solutions.

Difference between Chloralamid and Chloral Hydrate :—

The difference between the action of the two closely related bodies Chloralamid and Chloral hydrate may briefly be recapitulated

thus : Chloral hydrate is a stronger hypnotic than Chloralamid, and can therefore not be dispensed with in cases where a very powerful and rapidly acting sleep-producer is required. *Chloralamid, however, possesses distinct advantages over chloral hydrate, namely; it tastes better and is therefore more readily taken; it does not influence the heart nor does it affect the digestive organs. Signs of congestion of the head and other unpleasant after-effects frequently observed after chloral hydrate never occur after Chloralamid.*

The most important advantage of Chloralamid consists in the fact, that the drug never affects the circulation, not even during the most profound sleep. The heart continues to beat vigorously and the blood-pressure remains nearly at its normal height.

Difference between Chloralamid and Sulphonal :—

Chloralamid excels sulfonal in solubility, it causes sleep which sets in very soon after its administration, and which is sure to pass off the next morning, whilst with sulfonal the patients often have to wait for several hours until they obtain the desired repose which is, however, frequently unnecessarily prolonged during part of the following day.

Chloralamid may therefore confidently be recommended as a very powerful, reliable and harmless hypnotic.

Therapeutical Properties.—It may be given with advantage in all cases of sleeplessness in consequence of nervous excitement, in neurasthenia, in phthisis, in heart disease, spinal disease and in all cases of restlessness not accompanied with acute pain. Excellent results have also been obtained by administering it by rectum. It has no notable effect on the pulse, frequency of respiration and temperature. It is a most powerful hypnotic, though it is no panacea for all cases of insomnia. It possesses few ill effects; only slight headache and giddiness being the only symptoms occasionally complained of.

Its use is indicated in the following cases of insomnia :

- (1.) Nervous excitation of a slight degree.
- (2.) Neurasthenia.

(3.) Insomnia as a consequence of organic lesions, such as pulmonary consumption, heart-disease, spinal affections, etc.

(4.) All other cases of insomnia which are not the consequence of violent physical pain or severe excitation of the nervous system.

Mode of Administration and Doses :—

(a.) 20 to 45 grs., as an average dose.

(b.) 30 grs. is a sufficient dose for women, while in acute cases 50 grs. to be given.

(c.) 45 grs. is a sufficient dose for adults.

(d.) It is best given in a warm alcoholic beverage or wine or sweetened claret.

CHLORAL HYDRATE.

(1.) The three chief properties of hydrate of chloral are (a) decongesting the cerebrospinal axis which renders it hypnotic ; (b) its action upon the heart as a sedative and depressant ; (c) and its irritating effect on the stomach and skin.

(2.) *Hypnotic.*—In all the *pyrexias of congestive forms*, chloral will prove itself superior to opium as an hypnotic ; also in *alcoholic delirium*, it is to chloral that we should resort to calm the agitation of our patients. In cases of rebellious *insomnia in neuropathic* patients it is useful.

(3.) *Scarlet Fever.*—Chloral hydrate is highly recommended in scarlet fever in frequently repeated small doses of 1 to 5 grs., according to the age of the patient. Is well tolerated by the stomach if made palatable, has a marked sedative effect, controlling inflammation, in a degree and extent, both in the throat and kidneys, and preventing complications and sequelæ, such as otitis media and glandular inflammations (Wilson).

(4.) *Hypodermic Injection.*—(a.) Dissolved in plenty of water it has been injected in 10-gr. doses under the skin in *cholera*, but thus administered it causes pain and sometimes suppuration (b.) As it paralyzes the motor nerves, it is recommended in *tetanus* and *hydrophobia* in hypodermic injections cautiously repeated. (c.) Administration of

chloral by the hypodermic method should be reserved for cases of extreme urgency, as *strychnine poisoning*, *puerperal convulsions*, *uræmic poisoning of ecliptic*, and *delirium tremens*, because the irritant action of these injections determines eschars.

(5.) *Vesicant*.—Chloral hydrate may be used as a vesicant or blistering agent in place of, and preferable to, cantharides :—First powder it and place a layer of it on a piece of adhesive plaster, leaving a margin between the edge of the layer of chloral and that of the plaster ; this is then warmed over a gas jet until chloral becomes discoloured and melts, when it should be immediately applied on the spot for operation, the skin covering it is to be anointed previously with olive oil or lard. The anæsthetic property of chloral prevents any unpleasant sensation and fifteen minutes is the minimum period during which the application may be continued.

Toothache.—3 or 4 crystals of chloral hydrate inserted into the hollow of the teeth and allowed to dissolve is very effective in relieving toothache. 38 cases have been successfully treated in this way and also good results have been obtained in hemicrania resulting from carious teeth. (Dr. Spour.)^s

(6.) *Drastic Purgative*.—B. Bonatti recommends the following mixture as an easily administered, prompt and certain drastic purgative :—

R Infusi sennæ ...	...	...	300.0	gms.=10 fl. oz.
„ Chloral ...	...	...	1.5 to 3.0	„ =24 to 45 grs.
„ Syrupi ...	...	...	30.0	„ = 1 fl. oz.

The infusion of senna is to be prepared from 90 grs. (increasing, if necessary to 180 grs.) of senna leaves. The author states that he obtained results with this mixture, after jalap and croton oil had failed to act.

(7.) *Toxicology*.—As an antidote, 1/20 gr. of *Picrotoxine* has been found enough for 30 grs. of chloral. *Atropine* in 1/64 gr. doses or *Tr. Bellad.* in 1/2 dr. doses is also an antidote for an overdose or poisoning by chloral. On the other hand, in strychnine poisoning, after an emetic and tannin, 15 grs. of chloral and 30 grs. of bromide of potassium should be dissolved together in hot water, and given repeatedly.

(8.) *Contraindications.*—Chloral hydrate should be interdicted to persons suffering from heart disease and particularly in aortic stenosis or insufficiency ; here opium is far superior. It is also contraindicated in Bright's disease.

CHLORAL CUM CAMPHORA.

Vide CAMPHOR-CHLORAL.

CHLOROFORM.

CH. Cl₃.

Syn.—*Terchloride of Formyle.*

In the following pages I describe all the practical therapeutical uses of chloroform water, and pure chloroform internally and as inhalation, &c.

(1.) *Saturated Chloroform Water*, as prepared by pouring an excess of chloroform into a flask two-third full of water, agitating the mixture several times for the space of an hour, allowing chloroform to deposit, and decanting the supernatant liquid, is not only an excellent handy excipient for many medicines, but possesses also valuable *analgesic properties*. It disguises the insipid and unpleasant taste of many of them, markedly enhances the sedative and anodyne properties of other analgesic and narcotic remedies. It is a best excipient for the salts of Iron, Sodæ Salicyl, Bicarbonate and Chlorate of Potash, Borax &c. It is a suitable vehicle for the administration of morphine with which it forms one of the best palliative cough medicine in advanced phthisis.

(2.) *Preservative of Hypod. Solutions.*—Dr. Unna has employed the antiputrefactive power of Chloroform Water for the preservations of solutions of drugs for *subcutaneous employment*. Chloroform Water is substituted for distilled water in the preparation of *Fowler's Solution* and all *ergotin preparations*, even when intended for internal use. He likewise recommends the addition of a few drops of chloroform to *morphine solutions* and it is preferable to add chloroform water to all *alkaloids* whether intended for *internal or external use*, in solution of Chloroform Water.

(3.) *Hæmostatic.*—(a) Chloroform water, by the direct action which it exerts on the mucous membranes, is useful in affections of the mouth, gums, teeth, velum and pharynx, of an *hemorrhagic character*.

2 parts of chloroform mixed with 100 parts of water, is an effective *hæmostatic for operations about the mouth and throat*.

(b) A plug of cotton wool dipped into chloroform and placed into vagina and held near the os, *checks uterine hemorrhage even when warm water injections fail*.

(4.) *Mouth and Throat affections*.—In various affections of the mouth and throat, as *follicular pharyngitis, catarrh of the pharynx, gingivitis and diphtheria*, washes and gargles containing chloroform have proved beneficial.

(5.) *Affections of the Stomach and Intestines*.—(a) Action of chloroform water on the stomach, differs according as it is taken *before, during or after meal*, and according to the lapse of time intervened between taking the meal and the absorption of chloroform. Given before a repast, in aid of the appetite, the chloroform water is a bad agent ; about after a meal, whether given alone or with wine, it *increases the stimulant properties of the wine*. Its maximum therapeutic action is obtained 3 or 4 hours after the meal when functional disturbances show themselves by yawning, distension, gaseous fermentations, sense of epigastric pressure, flushings of the face and threatenings of vertigo.

(b) It is *analgesic in painful affections of the stomach* whether due to indigestion or organic disease. In the pains of indigestion it is almost without a rival, speedily mitigating the functional distress. It allays acute suffering and nausea attending *dilatation of the stomach* especially during digestion of food.

(c) But *it is injurious* when digestive disturbances are manifested by acute lancinating pains of the stomach, oppression, palpitations of the heart, febrile action, dryness of the mouth, painful tympanites.

(d) In gastric ulcer it is especially beneficial in conjunction with bismuth and pepsin, &c.

(e) In washing out the stomach chloroform water is better than alkaline solutions.

(f) On account of its disinfectant, astringent, and antihemorrhagic properties, chloroform water is valuable internally in cholera, gastric ulcer, &c., relieving both pain and vomiting.

(6.) *Hypnotic*.—Simple chloroform in one drachm doses is a prompt and safe hypnotic, producing sleep lasting for 2 hours, and to get this effect, the same precaution is necessary that obtains in producing natural sleep, *viz.*, recumbent posture, dark room and quietude, otherwise the patient experiences an unpleasant effect of stimulation, a sense of fulness in the head and confusion of thoughts.

(7.) *Cold Stage of Ague*.—It was given with benefit, in one drachm doses, during the cold stage of intermittent fever, in 56 cases.

(8.) *Congestive Chills*.—It is specific in the chills designated as congestive, but may have to be repeated in 20 or 30 minutes.

(9.) *Tænicide*.—In one drachm doses it is a good tænicide for tapeworm and should be followed by a purgative.

(10.) *Typhoid Fever*.—16 mins. of chloroform dissolved in 5 ozs. of water and a third part given thrice a day, diminishes the temperature, and within 3 or 4 days, the numbness, specific typhoid face and expression, and hardness of hearing disappear.

(11.) Chloroform is indicated in *convulsions from any cause, convulsions due to irritation from end organs, concussion of brain, delirium tremens, strychnine poisoning, &c.*

(12.) *Chloroform by Inhalation*.—Administration of chloroform by inhalation in *non-narcotic doses* may be advantageously employed in *asthmatic attacks* of whatever nature, in *dyspnœa* depending on diseases of the lungs, *emphysema*, in *cardiac asthma*, and in *phthisical patients* where chloroform is much preferable to morphine in arresting irritable cough. Dyspnœa due to pulmonary œdema is not alleviated by these inhalations, a fact which is not surprising when one recollects the marvellous action of injections of morphia in pulmonary œdema, in Bright's disease and uræmic convulsions. Chloroform inhalation is also serviceable in *puerperal eclampsia* and other severe convulsive seizures.

(13.) *Toxicology*.—In case of an overdose of chloroform being taken, the antidotes are (a) *fresh air*, (b) *internal administration of Liq. Ammoniacæ*, or better still, *inhalation*, (c) *application of cold douche or ice to the head*, (d) and *seidlitz powder internally*. If the case be very bad, (a) give an *emetic of Cupri. Sulph.*, (b.) then let him inhale *Amyl Nitrite* or *inject hypodermically* 10 to 15 mins. of a solution of

Amyl Nitrite (1 in 10), (c) or still better, *inject Atropine* subcutaneously, because in a case where 2 ozs. of chloroform was drunk, $\frac{3}{4}$ gr. of sulphate of Atropine was injected, and the patient had recovered.

For "Poisoning after Chloroform Inhalation or Narcosis," *vide* "TOXICOLOGY" Part II.

For "Causes and Prevention of Death by Chloroform" *vide* Part III.

CHLOROFORMUM AMMONIATA.

Syn.—*Ammoniated Chloroform.*

1. The effects of the inhalation of this compound are, to give relief from pain, and repose if not actual sleep. Under the combined influence of its vapours there is reduction of temperature. Under the influence of ammonia there is sustained fluidity of the blood and a production of freedom of secretion. Under the action of the combined vapours there is an antiseptic result, which renders it useful in zymotic pyrexia or fever for reducing temperature at once with direct precision, and without employing any of those medicinal agents which have to pass slowly into the system by absorption through the stomach and have to pass out of the system by slow elimination.

Mode of Administration.—In administering this compound by inhalation, put two fluid drachms of it into a Wolfe's bottle connected with a leather inhaler and armed with an expiratory valve. The mouth piece of the inhaler is held close to the mouth and the patient is instructed to inspire until bubbles of air are drawn pretty freely through the fluid in the bottle.

CHRYSAROBIN.

Syn.—*Goa Powder, Araroba Powder, Po'de Bahia.*

A mixture of proximate principles (commonly misnamed chrysophanic Acid), extracted from Goa-Powder, a substance found deposited in the wood of the trunk of *Andira Araroba* Aguiar (*Nat. Ord. Leguminosæ*).

Characters and Tests.—A pale orange-yellow, crystalline powder, permanent in the air, odorless and tasteless, almost insoluble in water, only slightly soluble in alcohol, readily soluble in ether and in boiling

benzol. When heated to about 323·6° F., it melts, and may be partially sublimed. On ignition it is wholly dissipated. In solutions of alkalies it is soluble with a yellowish-red or reddish yellow color which is changed to red by passing air through the liquid. Sulphuric acid dissolves it with a blood red color; on pouring the solution into water, the substance separates again unchanged. It contains more or less chrysophanic acid according to age and condition, and yields much chrysophanic acid by oxidation.

Therapeutics.—It is a most certain and effective agent in *parasitic skin diseases*. An ointment of 1 in 24 is very efficacious in *lupus*, *ringworm*, “*dhobies’ itch*,” and *psoriasis*; this ointment is prepared by heating together chrysarobin 1 part, lanoline 10 parts, and benzoated lard 14 parts, and stirring till cold. A milder ointment of 5 to 10 grs. to the ounce may be used in cases of eczema, as a strong ointment often causes feverishness and irritation after several days’ use. Chrysarobine may also be applied in the form of paste, made with vinegar or lemon juice. It stains the skin, hair, and clothing, but the stains may be removed with Benzole or a weak solution of Potash, or chlorinated lime. Its continued use produces inflammation. Besides the ointment, a pigment can be prepared by dissolving 1 part of chrysarobin in 9 parts of Liq. Gutta Percha (Traumaticin); this may also be made with collodion, of any strength desired.

Internally it is useful in cases of psoriasis, but being irritant, it acts as a purgative, and even as an emetic if the dose be increased, and therefore its use is generally abandoned.

Dose.— $\frac{1}{6}$ to $\frac{1}{2}$ gr.

CINERARIA MARITIMA.

The plant is chiefly valued in England for garden borders on account of its white almost frosty-looking foliage, and has lately been brought to our notice on account of the efficacy of its leaf-juice in the treatment of cataract. It is said to possess the property of dissolving or dispersing the opaque film, this property probably depends upon the presence in the *succus* of some principle which can be isolated and thus obtained in a more convenient form. In Venezuela it has a special reputation for its remedial powers in cataract. (Dr. R. Mercer).

CLERODENDRON INERME.

Syn.—*Petit Plant*; *Vana-jai*, *Dariai-jai*, *Quinine Plant* (Bom.); *Banjai*, *Sangkupi* (Hind.); *Ránjoi*, *Koival* (Mar.); *Kundli* (Sanskrit); *Shengankupi* (Tam); *Pisangi* (Telugu); *Isamdhári* (Dukhni).

Part employed.—*The Leaves.*

N. O.—*Verbinaceæ.*

Habitat.—*India.* Very common on the sea-shore about *Bombay* and also growing in large gardens.

Characters.—A weak, climbing branched shrub. The leaves are small, from 1 to 2 inches long, smooth, shining, fleshy, oval or elliptical, both sides dotted with numerous minute dark-green dots, and having a rather agreeable acid and bitter flavour. The flowers are white and fragrant, bearing beautiful purple stamens. The juice of the leaves is mucilaginous, intensely bitter and saltish in taste.

Chemical Composition.—The leaves contain a bitter principle and an acid chemically identical with chiratin and ophelic acid, also a fragrant stearopten to which the apple-like odour is due. The ash contains sodium chloride to the extent of 24·01 per cent.

Therapeutical Properties.—The medicinal properties of this shrub are very widely known in the East. In *Bombay* the plant has a great reputation as a *febrifuge* in *remittent* and *intermittent fevers*. It was first brought to the notice of the *Bombay* public by Sir *Dinshaw Manockjee Petit*, Bart., who has used the leaves largely, and finds them of much service in cases where quinine has not been well borne. He gives the following account of the properties, uses and modes of administration of the plant from his own experience:—

Petit Fever Leaves grow almost on every shore in a creeper and have invariably been found by me to be very effective in fever of all kinds, and particularly so, in *malarious*, *intermittent*, *remittent* and *sunstroke fevers*, *hay-fever* and *fever of long standing* for months and even years. In many cases where quinine has failed to give the desired effect, these leaves have succeeded, and those who have used them, have never complained to me of any harm done to them by the same. *It purifies the blood and is efficacious in itch and other skin*

diseases. In cases of itch, the dry or green leaves are to be soaked in water and made into a paste, a little oil being mixed with it (to prevent hairs from curling), and rubbed on the affected part, and allowed to remain for a few hours; this is to be repeated morning and evening. Persons suffering from itching over the whole body are recommended to have a bath of the leaves, by boiling them in water, and after filtering it, mixing the boiled water with the bath water.

The leaves are recommended to be chewed with or without bettlenut leaves or taken in the form of infusion or syrup in cases of heat in blood, itch and other skin diseases in addition to the external applications.

Modes of Administration, Preparations and Doses.

1.—The leaves may be chewed with or without *Pan* (bettlenut leaves).

Dose.—For adult 7 to 15 leaves .. }
For a child 2 to 4 leaves... } Thrice a day.

2.—In the form of Infusion; which is prepared as follows:—

Take from 15 to 30 leaves, break each into two or three pieces and infuse the lot in a porcelain-covered vessel in $1\frac{1}{2}$ teacups of boiling water, in the same manner as tea is prepared, adding some dry or fresh crushed ginger or a pinch of tea for stimulant, let it remain till it becomes cold and strain it through cloth. In straining, care should be taken not to rub the leaves, for, by so doing the juice would become sedimentary and consequently obstructive in swallowing.

Dose.—For adults a wineglassful with little sugar. }
For children a $\frac{1}{4}$ to $\frac{1}{2}$ a wineglassful with } Thrice
little sugar } a day.

3.—In the form of Tincture; which is prepared as follows:—

Dry the leaves in a shady and airy place. Take from quarter to half a pound or 10 to 20 tolas of these leaves and soak them in one bottle of spirit of wine or of treble extract of *mowda* liquor (the latter is more preferable), allow the leaves to remain in the spirit or liquor for about five days and after filtering it, use as follows:—

Dose.—*For adults* 30 to 60 drops ... } In one to two table-
For youths of 11 to 20 years 15 to 30 } spoonfuls of water
 drops ... } thrice a day.
For children of 6 to 10 years 10 to 15 } In one table-spoon-
 drops ... } ful of water thrice
 „ 1 to 5 years 1 to 10 drops. } a day.

4.—In the form of Syrup ; which is prepared as follows :—

Dry these leaves 4 or 5 days in a shady and airy place, then break each leaf into two or three pieces and take eight ounces or twenty tolas of these leaves and infuse them in $1\frac{1}{4}$ bottle of boiling water, in the same manner as tea is prepared and allow it to stand for a day or two, then rub the leaves in that water and strain them with the same water through cloth by squeezing ; add the same quantity of sugar as the weight of the liquid and boil it to the consistence of syrup.

Dose.—*For adults* $\frac{1}{2}$ to 1 wine-glassful in equal quantity } Thrice
 of water ... } a day.
For children 1 tea-spoonful to 1 dessert-spoonful, ... }

5.—In the form of pills ; to be made as follows :—

Dry the leaves well in a shady and airy place till they become very brittle, then powder them, and mix the powder with some spicy ingredients and make pills of the same.

Dose.—*For children* ... 1 to 2 grains.
For adults ... 4 to 6 grains.

COCA.

Syn.—*Erythroxylon Coca, Cuca.* *Part employed.*—*The leaves.*

N. O.—*Erythroxylaceæ.* *Habitat.*—*Chili, Peru, Bolivia.*

Characters.—Coca is a small shrub about four feet high, with numerous spreading purplish-brown branches (whence the name erythroxylon, being descriptive of the color of the bark). It has small yellowish fine petalous flowers in axillary clusters of three to four, ten hypogenous stamens, and an oblong, red and smooth drupaceous fruit containing a single albuminous seed. It is indigenous to the mountains of Peru and Bolivia, and is cultivated in both these countries, also in some parts of Colombia, Brazil and the

Argentine Republic. The leaves, which furnish the drug in the market, are gathered and carefully dried in the sun to preserve their green color, and the harvest occurs twice a year, after the rainy seasons. These leaves are peculiar in their structure and appearance, so that by their markings they can be easily distinguished from the leaves of other plants which may be similar in form and color. They are alternate, about two inches long, ovate, rather obtuse, and frequently emarginated, somewhat narrowed into short petiole, entire on the margin, rather thin, smooth, reticulated on both sides, with a prominent mid-rib, on each side of which is a curved line running from the base to the apex and representing two longitudinal folds. The leaves have a slight but agreeable odor, similar to that of tea, and a somewhat bitter and aromatic taste."

Chemical Composition.—Coca leaves contain, besides cocaine, an amorphous material, which forms from 25 to 58 per cent. of the total alkaloidal matter, and concerning which there has been a difference of opinion. This uncrystallizable substance has not always the same composition; sometimes it consists of cocaine mixed with *hygrin* (a volatile principle having the odor of trimethylamine), and other bodies which prevent it crystallizing; sometimes of a mixture of alkaloids, the chief of which is called *cocamine* or *isatropylcocaine*; also coca tannin and coca-wax are other constituents. Cocaine chemically considered, is methyl-benzoylecgonine,—that is, benzoylecgonine in which an atom of hydrogen has been replaced by methyl. Benzoylecgonine, again, is ecgonine, in which an atom of hydrogen has been replaced by benzoyl. While ecgonine is formed when cocaine is heated with an acid, benzoylecgonine may be produced by heating it in a sealed tube with water. It is probably, indeed, present in badly-packed leaves, and is readily formed during the process necessary for the extraction of cocaine from the leaves. A pound of ordinary leaves contain about fifty grains of cocaine, although about half that quantity can be crystallized in manufacturing. So that a drachm of the fluid extract made from good leaves should contain about $\frac{2}{3}$ gr. of Cocaine.

Its History and Early Uses:—Coca has been in use among the aborigines of South America from time immemorial, and there is no

record of its first use as a stimulant. The leaves were chewed together with the ashes obtained from burning oyster shells, long before the conquest of the country by the Spaniards. The plant was held in high esteem,—a gift of the Divinity, and derived its name “Coca” from the word “Khoka,” signifying *the tree or the plant*; that is, the Divine, especially powerful and favored plant. Naturally superstition imparted greater virtues to Coca than it really possesses, and the Indians believed that no work of any importance nor any of their religious ceremonies could be performed without its aid.

“In Peru, under the dynasty of the Incas, Coca was considered a representation of the Divinity, and the fields where it grew were venerated as sanctuaries. The natives made talismans of the plant; through it they obtained favors of fortune, triumphs in love, the cure of disease and relief from pain; it made oracles speak, and rendered responses less ominous; its presence in their home kept away all accidents and crime.”

“None could visit the tomb of his ancestors, or invoke their spirits, if he had not some Coca in his mouth. And all were not deemed worthy to use this precious plant. For a long time it was reserved for the worship of the Divinity and the use of the Incas—those grand monarchs who pretended they were descendants of the gods. None dared chew the sacred leaf unless some great deed or particular virtue made him worthy to partake of it with these sovereigns. It was the recompense for loyalty, bravery or some heroic action—a recompense much more prized than gold or silver.”

The Spaniards becoming alarmed at this widespread superstition regarding the Coca plant and believing the effects of the chewing of the leaves to be purely imaginary, issued a decree against its use by the Second Council of Lima, Oct. 18, 1569.

This decree was, however, of little avail in suppressing the supposed evil of Coca chewing in South America, and to this day the laborers and Indians continue to use this drug.

The superstition connected with the coca plant was, however, gradually dispelled, and the Spaniards began to appreciate the

importance and usefulness of this wonderful drug as a food replacing agent.

Humboldt relates the effect of coca upon the Indian guides and burden carriers, whom he employed in his South American voyage across the mountains, where he says that these men as couriers, travel faster than horses could on the mountainous paths without food or water, and but a few hours sleep for days, and sustain their strength by chewing coca leaves mixed with ashes. The burden carriers carry immense loads without apparent fatigue and rest only in the middle of the day to chew their Coca.

Physiological actions.—(1.) Coca and its medicinal preparations are remarkable in their food-replacing power, and act at the same time as a powerful muscular and nerve tonic. (2.) Thus Montagaria, in describing the virtues of Coca as a medicine in 1859, says that an infusion of Coca, taken internally, would increase the action of the heart fourfold, while an overdose increased the heat of the skin, produced palpitation of the heart, flushes, headache and vertigo, and increased the pulse rate from 70 to 140. A normal dose produced in his own case a feeling of increased strength, with a desire to exert himself; and, after taking 18 drachms of the infusion, was able, without inconvenience, to abstain from food for forty hours.

(3.) In large doses Coca increases the animal heat, increasing the frequency of the pulse and respiration.

(4.) In doses of three to four drachms of the infusion, or three to four tablespoonfuls of the Liqueur excites the nervous system, increasing the desire for muscular activity and leaving afterwards a feeling of delightful repose.

(5.) In very large doses (10-15 drachms) it produces delirium, hallucination, and may even cause congestion of the brain. Other observers and experimenters found the same effects produced by this drug. Thus Dr. Isaac Ott, states that after chewing sixty grammes of the leaves during a period of nine hours he found dilatation of the pupil, partial headache, drowsiness, increase in the pulse and temperature and a decrease in the amount of chloride of sodium excreted from the kidneys.

It had been found that Coca caused slight excitation of the stomach, with an increase of the gastric and intestinal secretions, which was temporary, and was followed by a dryness and anæsthesia of the mucous membrane, and it was this fact that made it of great use in certain painful affections of that organ.

Vide.—Physiological actions of Cocaine.

Therapeutical actions.—Its properties are stimulant, supporting, carminative, sialagogue, expectorant, aphrodisiac, and emmenagogue, and locally and generally anæsthetic.

(1.) *Stimulant and Supporting.*—Of all its uses the most important is that of a *stimulant and supporting*. It is a remedy for, and preventive against, the fatigue of any excessive mental or physical exertion. *Vide.* “Its early history.”

In cases of excessive exertion and exposure the Indian uses coca without any limit except his own appetite, but in all such cases, the period of strain successfully passes, and he enters smoothly and quietly upon his period of rest, eating enormously, but digesting with perfect satisfaction. In carrying a patient through a serious illness and during convalescence the same recourse is had to coca, but generally in the form of decoction or other fluid extract. It is useful in nervous exhaustion from excessive overwork or loss of sleep.

(2.) *Antidote to Alcohol, Opium, and Tobacco Habits.*—It destroys the craving for alcohol and opium, and is the antidote and cure for the opium and alcohol habit. *In the opium habit*, the wine of coca and all of the various preparations have been used with marked success. Coca would produce sleep when opium had failed, if given in small doses repeated (Dr. W. O. Moore). Dr. W. F. Waugh recommends coca in the treatment of the alcohol habit, saying, “that it is useless in the treatment of delirium tremens, but to relieve the depression resulting from the deprivation of stimulants it has remarkable powers. I have frequently returned to my home after a hard day’s work only to find that a still harder night awaited me in the shape of a tedious labor case. A dose of Coca, however, removed the fatigue and left me as fresh as when starting out in the morning after a sound night’s sleep.” Dr. Sigmund Freud of

Vienna, had also used Coca with good effect in both the opium and alcohol habits, and thought it was antagonistic to opium. Dr. C. L. Mitchell mentions the use of Coca as a substitute for chewing tobacco in the form of plugs which he terms "Coca-bola," and both he and Dr. Waugh obtained good results from them in the treatment of the opium and tobacco habit, thus going back to the original method of using the drug by the Peruvian Indians.

(3.) *Mental Affections*.—It is the remedy *par excellence* against worry. In *hypochondria* and *melancholia*, its action in promoting cheerfulness is marked. In small doses it relieves sick headache and headache due to over exertion, relieving mental exhaustion and rendering the flow of thought more easy. It is useful in nervous exhaustion from excessive overwork or loss of sleep; the mental confusion and nervous excitement and sensitiveness are removed and remain bright and tranquil.

(4.) *Gastro-Intestinal Affections*.—It is a great digestive tonic, notwithstanding that it temporarily decreases the appetite. Hence its universal use after, rather than immediately before, eating. No greater error could be made than the exhibition of any preparation of coca before eating, because of the loss of appetite which succeeds, and which persists sometimes for a long period. Its depressing effect, however, seems to apply to the appetite alone, for, the food once ingested, coca acts as an aid to digestion. There are two conditions in which the internal effect of coca-leaves is quite as magical as the local effect of cocaine. First, in case of the discomfort or pain resulting from over-eating, or from habitual dyspepsia; second, in true colic, particularly that of infants. In the case of adults, its use in such cases is usually in some form of fluid extract. In the case of infants, it is prepared by stirring a few leaves in warm milk. Chronic digestive troubles of long standing are frequently cured by the habitual use after eating of an amount of extract or elixir corresponding to about one drachm of the dried leaves.*

Its immediate effect on the bowels is slightly constipating, though this property is not sufficient to make it useful as an astringent, except

* It is customary for the residents of La Paz, after a very hearty meal, to repair to an apothecary's shop, and take upon the spot a "pony" of coca elixir.

in the case of infantile diarrhoea, where the leaves are used in hot milk. Another common form of administration is by the mother or nurse transferring from her own mouth to that of the infant the juice from the masticated leaves. Its remote effect, on the other hand, is laxative. This has appeared to me to be especially true when the constipation was due to atony of the lower bowel. In the same way it frequently overcomes flatulence. Coca chewing tends to preserve the teeth.

(H. RUSBY, M.D.)

(5.) *Respiratory Affections*.—(a.) Dr. Charles Fauvel, of Paris, was one of the first to use Coca internally in the form of Vin Mariani, for the *tonic effect on the vocal cords*. He was led to use it by the repeated statements of an old priest, who said that, whenever he had a long service to perform, he took it for ten days before, always with the effect of increasing the volume of the voice. For the past fifteen years Dr. Fauvel had used it, both internally and also by local applications to the pharynx and larynx in spray or by brush, in the form of a fluid extract, or, more recently, of a concentrated non-alcoholic preparation more of the nature of a cordial. Fauvel calls Coca the “tensor par excellence of the vocal cords.” Dr. F. E. Stewart recommends Coca to be smoked like tobacco, and obtained results from this mode of administration similar to those obtained by taking the drug internally. He also states that Dr. L. Lewis, of Philadelphia, had used Coca cigarettes in the treatment of *throat affections* for the last nine years. In many cases of *asthma* it has been used successfully in the form of a weak, hot decoction, although it presents the same history of uncertainty as other drugs so used. A *cold* is often broken up by chewing the leaves in unusual quantity. It seems to act in such cases partly as a general stimulant and partly by stimulating expectoration. As an expectorant its action is ordinarily masked, as the products are swallowed. Its action, however, is continuous from the first. The primary tendency of the cocaine to produce anæmia of the mucous membrane is overcome by the mechanical effect of mastication. Afterwards a reaction takes place, the stimulation extending to the mucous membrane itself.

(c.) It is useful in breathing from debility of the respiratory muscles.

(7.) *Cardiac and General Tonic*.—It is useful in *palpitations*

without valvular lesions, and due to dilatation and weakness of the heart muscles. It is a tonic of great value in all *asthenic* conditions.

(8.) *Generative Organs*.—It is useful in *spermatorrhœa* and *impotence*. To obtain the *aphrodisiac effect* it is said to be most successful when taken repeatedly for some hours before the effect is desired, another instance of the cumulative nature of this drug. (b.) It also acts as an *emmenagogue*; the Spanish-American physicians state that its effect is speedy and certain in *inertia uteri*.

(9.) It is a noteworthy fact that while cocaine (coca) is said to be *synergistic of arsenic and antimony*, the chewing of coca leaves is the chief reliance of miners against poisoning by those two drugs.

(10.) Lastly, Coca is useful, in overcoming *bilious condition* associated with malaria, and for *sea-sickness* especially in the form of wine.

Preparations and Doses.—Leaves (chewed or in infusion), $\frac{1}{2}$ to 2 drs.

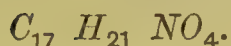
Fl. Ext., $\frac{1}{2}$ to 2 fl. drs.

Solid Ext., 2 to 10 grs.

Tr. (1 to 5 Pf. Sp.), 1 to 2 fl. drs.

Vinum (dried leaves 6, Vin de Grenache or Vin Rouge 100 : macerate for 6 days and filter), $\frac{1}{2}$ to 1 fl. oz.

COCAINE.



Syn.—*Cocaina*; *Erythroxyline*; Methylbenzoylecgonine (chemically considered).

Preparation.—Cocaine was first isolated by Niemann in 1860. He obtained it by exhausting the drug with alcohol acidulated with sulphuric acid, neutralizing this liquid with lime and filtering; the filtrate was again acidified with sulphuric acid, and the alcohol evaporated off. A semi-liquid grayish mass was obtained, containing the cocaine as a sulphate; from this solution it was precipitated with carbonate of soda, and purified by crystallization from ether and alcohol.

Characters.—It is in shining monoclinic prisms, has a bitterish taste, and a benumbing effect on the tongue. It is soluble in 704 parts of water, more so in alcohol, and freely so in chloroform and ether.

For “Physiological and Therapeutical Properties” *vide* Cocainæ Hydrochloras.

COCAINÆ BENZOAS.

Characters.—An extremely soluble and easily crystallisable salt of Cocaine, having the characteristic odor of coca itself.

Uses.—The employment of the benzoate of cocaine in preference to the hydrochlorate (the salt most commonly used), and to the salicylate and borate, is strongly recommended on account of its great solubility and antiseptic qualities. Amongst other experiments, the anæsthetic effects of a 20 per cent. solution of the benzoate were compared with those of a similar solution of the hydrochlorate in a case of epithelioma of the tongue, with the result that the effect of the former salt persisted for a much longer time than that of the latter.

COCAINÆ CARBOLAS.

Syn.—*Phenol-Cocaine.*

It is prepared by gently heating together 2 parts of Cocainæ hydrochloras and one part of pure phenol. It is employed only as a local anæsthetic in dentistry.

COCAINÆ CITRAS.

In small white deliquescent crystals and has been recommended for the use of dentists.

COCAINÆ HYDROCHLORAS.



Preparation.—It is obtained, during the preparation of sulphate of cocaine as described above, by neutralising with hydrochloric acid and recrystallising.

Characters and Tests.—Occurs in almost colourless acicular crystals or crystalline powder, readily soluble in water, alcohol and ether. Its solution in water has a bitter taste; gives a yellow precipitate with

chloride of gold ; and a white precipitate with carbonate of ammonium, soluble in excess of the reagent. Its solution produces on the tongue a tingling sensation followed by numbness. The aqueous solution dilates the pupil of the eye. It dissolves without color in cold concentrated acids, but chars with hot sulphuric acid. The solution yields little or no cloudiness with chloride of barium or oxalate of ammonium. Ignited in the air it burns without residue.

Physiological actions.—The effect of cocaine upon the intellectual faculties is the best marked of its physiological action, and is distinct from that of any other drug. Imagination as a factor in this result is excluded by the fact that it can be produced with equal certainty in man or the lower animals. Those symptoms vary directly with the dose. A moderate dose of cocaine produces only exhilaration. It is a species of intoxication, somewhat resembling that of alcohol, and coming as near to a state of happiness as can be expected to result from the administration of any drug. The period of excitement glides into a condition of quiet contentment, which has been very perfectly described as a “state of well-being.”

If a larger dose has been administered this state of exhilaration becomes a state of more or less painful excitement and mental strain, passing into feebleness. The state of cerebral excitement reminds us strongly of oxygen intoxication and it is furthermore accompanied by an elevated temperature. In many persons the capacity for mental work is greatly increased.

Cocaine has no direct effect upon either striped or unstriped muscular fibre. Upon the sympathetic nerve centres its tendency is directly toward depression or paralysis according to the relative dose. This tendency is combated with the result (1) of a reactionary stimulus succeeded by depression ; or (2) of a primary depression or paralysis, according to the dose, and the character and condition of the subject. After the period of depression, if it be not too severe, there is a second period of reactionary stimulation. The evidences of this action are a great contraction of the vessels, followed by an even greater dilatation, and again of contraction, (these symptoms not agreeing in all classes of subjects.) The stage of dilatation is accompanied by—and apparently causes—an increase of temperature.

Of the effect on the sensory system, it is impossible to judge, equally high authorities stating that it produces general anæsthesia and general hyperæsthesia. It is probable, as claimed by some that it blunts the power of perceiving sensations, while it leaves unaffected or even increases the power of receiving and conducting them. The unequal existence of this effect results in coördination. But it is certain that if it can penetrate to the fibres of the nerve trunk it cuts off communication from the peripheral portion. It is equally certain that spinal reflexes are heightened until their capacity has become exhausted.

Like the sympathetic, the motor system is depressed or paralyzed according to the condition of dose and subject. Here also the depression may be preceded by a period of stimulation, which may be greatly prolonged; and which does not exactly coincide in the case of the cranial and other nerves. As a result the pupil is dilated, the respiration, perhaps after a brief period of excitement is depressed with exactly the peculiar symptoms which we observe in cases of section of the pneumogastric. The heart's action is increased and, through the primary vascular contraction, a state of increased blood pressure brought on. If the influence continue, this gives way to a state of collapse. The effects upon the respiration are always earlier and more profound than those upon the heart.

In the stomach, digestion is promptly checked.

Intestinal peristalsis is briefly increased, then lessened or stopped.

Of these nervous effects all can be modified and controlled to a most remarkable degree by adaptation of the amount and method of administration of the dose. (H. RUSBY, M.D.)

Not only did Cocaine (muriate) act as an anæsthetic, but it produced anæmia of the mucous membrane or surface to which it was applied. The paleness came on just before loss of sensation, and with it there was a reduction in the temperature of the part. When placed in the eye, it produced anæsthesia within three minutes, if the solution was freely used. The stronger, the solution, the more rapid the effect. This loss of sensation lasted for fifteen minutes, the extent of dilatation depending on the strength of the solution. It remained dilated for twelve hours usually. The accommodation was impaired in about

thirty-five minutes, the effect lasting six hours, when a 4 per cent. solution was applied ; it was rarely entirely paralyzed. As Nikolski found that the pupil still dilated after the sympathetic had been cut, it would seem that Cocaine acted through the third pair of cranial nerves.

Comparing the influence of the chief alkaloids of the coca plant and their derivatives, it appears that cocaine itself chiefly affects the nervous system, first as a transient depressant, then as a stimulant, the action on the muscle being feeble.

Benzoylcegonine has first a stimulant action on the nervous system and muscle. Afterwards it paralyzes both. Ecgonine has a similar but much milder effect. Cocamine action resembles that of cocaine in many ways, but it exercises a profound influence on the muscle, while that of cocaine, though visible, is slight.

Hygrine, which is possibly a pyridine base, when injected under the skin of a frog, causes intense local irritation, and when applied to the tongue in man, burning and tingling.

Dr. Stockman, in conclusion, enters into some speculations as to the physiological cause of the phenomena said to arise from the use of coca leaf.

Its general sedative action is, he thinks, due to the dulling of the central nervous system to sensory stimuli. The secondary stimulant effect on the brain, and the loss of sensory conducting power in the cord explain the restfulness, apart from heaviness, said to accompany the feeling of well-being, which the coca-leaf produces.

Owing to the anæsthetic effects of its contained alkaloids, chewing the leaf dulls the feeling of hunger. Their action on the intestinal muscle prevents constipation, and, perhaps, they cause the skeletal muscles to contract better. The effect of coca alkaloids on metabolism is doubtful. It is possible, however, that cocamine, which, like caffeine, modifies the vital processes in the muscle, may effect chemical activity, so that an equal or greater amount of work can be performed with a lesser consumption of carbohydrates. This would explain its effects in increasing the endurance of fatigue by those who chew the leaf. (Dr. Stockman).

Therapeutical Uses of Salts of Cocaine and the Methods of Application :—

(1.) *Ophthalmology*.—In ophthalmic surgery, owing to the extreme sensitiveness of the organ to be operated on, and the shrinking of the patient from contact with the surgeon's knife, its introduction into medicine has been attended with no small amount of excitement. The hydrochlorate of cocaine is the salt most generally used in eye practice. The strength of the solutions used varies from 2 to 20 per cent.—“As to the time required for its action.—From two to six minutes after a full dose some anæsthesia of the conjunctiva appears. The maximum effect is reached in about fifteen minutes, and in thirty or forty minutes commences to subside. When the Cocaine has been once applied, subsequent applications apparently act with more rapidity than at first. When the dose is sufficient to produce a well-marked anæsthetic effect, this precedes the dilatation of the pupil. The latter, however continues for some hours after the former has disappeared.”

(a) Two drops of a 2 per cent. solution instilled in the eye produces in a few minutes sufficient insensibility for the *removal of foreign bodies from the cornea* and bleaches at the same time the congested tissues by contracting the blood vessels. In the case of foreign bodies no pain is experienced. (b) The *passing of lachrymal probe* is rendered quite painless. (c) It has been found efficacious in the *examination of corneal ulcers*, enabling the surgeon to catch sight of the cornea without going through the stage of struggling with the child. (d) The needle operations are rendered painless. (e) For operations, such as *cataract, iridectomy or even enucleation* a 4 per cent. solution should be used, and from 2 to 3 drops instilled in the eye to be operated upon, at intervals of five minutes, until 6 to 8 drops have been used, when complete anæsthesia will have set in. In enucleation it is well to instill a drop or two during the operation at short intervals, as the deeper tissues are exposed, so as to obtain complete anæsthesia, and also obtain the hæmostatic effect of the drug, which is due to the contraction of the vessels. Dr. Walter H. Jessop found in a case of extraction for senile cataract in a man of 79, a 20 per cent. solution resulted in a perfectly painless operation, though a free iridectomy was made in order to let out a quantity of soft matter. (f) Also in *operations on the lids and the lachrymal duct*, cocaine solutions act in a similar manner. If, however, the deeper portions of the lachrymal duct are to be made insensible,

simple instillation is not sufficient and the solution must be injected into the duct, which can easily be done with Meyer's small syringe. (g) In the treatment of both *acute and chronic inflammations of the eye* a 2 per cent. solution of the cocaine muriate instilled in the eye three or four times a day speedily produces amelioration of the symptoms, and a cure of the disease. Thus Dr. E. O. Shakespear reports a case of accidental cauterization of one eye by *Liquor Ammoniacæ*, in which two drops of a 4 per cent. solution of cocaine salt relieved the pain within five minutes, and a drop of a 2 per cent. solution being used at intervals of two to three hours. The inflammation had disappeared at the end of the second day after the accident without leaving a trace behind. (h) On account of its *mydriatic and anæsthetic* powers it is useful, with atropine, locally in *iritis with synechie*. It *paralyses the accommodation* in cases where atropine or homatropine cannot be used. (i) It is useful in *strumous ophthalmia or keratitis*. (j) The iridectomies all experienced a certain amount of pains, especially the glaucoma case. (k) Dr. C. Boder, remarks in cases of *intolerance of light* it acts like magic. This power of cocaine in completely annulling the *photophobia* in cases of *phlyctenular conjunctivitis*, has been observed by me more than once; after only one or two instillations of a two per cent. solution the patient allows his cornea to be seen without any fear of photophobia. (l) Without doubt we will also meet with people of a peculiar idiosyncrasy upon whose mucous surface it will not produce its physiological effect; or, peculiarly susceptible to its influence with alarming results; this should not make us decry such a boon to suffering humanity, for if we did and threw aside all other remedies to which the same reasoning might apply what would be left in the pharmacopœa?

2. *Otology*.—(a) In otology a 4 per cent. solution of cocaine, a few drops of which being instilled into the external meatus were found, to relieve the pain in *neuralgic earache*. The same solution has been found successful in a number of cases of acute inflammatory earache in children.

(b) Knapp says, "In all conditions that require *manipulation, or in the application of remedies, or incision, scraping, torsion, avulsion, ecrasement, &c.*, in the tympanic cavity, where the drumhead is perforated, or in the ulcers of the ear canal and the auricles local

anæsthesia can be easily and satisfactorily effected by instillation of hydrochlorate of cocaine solution." Dr. C. Bull reports "that he has performed perforation of the membrana tympani in three cases with entire absence of pain. Operations on the walls of the ear canal, the auricle, and its surroundings, such as the removal of tumours, incisions into the skin, &c., can be rendered painless by the subcutaneous injections of cocaine solutions."

(c.) It is extremely beneficial in cases of simple *earaches in children and adults*. The ear canal should be first quietly syringed out with warm water to remove any hardened cerumen and then a few drops of a 4 per cent. solution of hydrochlorate of cocaine, slightly warmed, is to be instilled into the meatus. Almost instantly the pain is relieved and the patient drops off to sleep.

(3.) *Laryngology*.—(a.) In cases where *undue irritability of the fauces* prevents the introduction of the laryngeal mirror for laryngoscopy, painting of the parts with 4 per cent. solution by means of a camel's hair brush, will make them insensible to the presence of the instrument. A spray from an atomiser of a 1-2 per cent. solution, repeated at intervals of 2 or 3 minutes will produce anæsthesia of the larynx so that operations, such as the removal of laryngeal tumors, can be performed with comparative ease in the laryngeal cavity.

(b.) Dr. Felix Semon, of the Throat Department of St. Thomas's Hospital, speaks very highly of the success attending the use of this drug in *intralaryngeal operations*. He writes :—"I have under my care at the present time a lady with the largest papillomata of the larynx I have ever seen in an adult. The prolonged interference with respiration has so lowered the patient's vitality that, on each of the seven occasions on which I have removed masses of the growth by forceps, the mere introduction of the instrument has caused alarming shock. Recently I painted the interior of her larynx with a 20 per cent. solution of Muriate of Cocaine once, and after waiting five minutes I was able to introduce the forceps four times, and remove each time considerable portions of the tumours without the patient experiencing any pain at the moment or subsequent shock. She described the sensations caused by the Cocaine as, first, a slight feeling of constriction, followed by a sensation of burning, which quickly passed away."

(4.) *Dysphagia*.—(a.) In cases of *painful deglutition caused by cancerous, tubercular or syphilitic ulcerations of the pharynx or larynx*, a spray of Cocaine solution or painting the solution upon the previously cleaned ulcerated surface makes deglutition comparatively easy. (b.) In dysphagia—with distressing pain in deglutition—painting the surface of the epiglottis with a 10 per cent. solution enabled a patient to make a hearty meal who had for ten months previously subsisted on milk in minute quantities. Cocaine in the form of gelatine lozenges, will have the same beneficial effects in relieving dysphagia, as by painting the solution.

(5.) *Rhinology*.—(a.) In operations within the nasal cavities, the drug is best applied by introducing a pledget of cotton soaked in a 4 per cent. solution of the Cocaine salt, and allowing it to remain in contact with the part to be operated upon, for 5-10 minutes. Dr. Carl Seiler, reports several cases of *intranasal operations* performed with the aid of Cocaine, and says, 'referring to the operation for removing bony excrescences with the dental drill:—

"The operation of removing *bony excrescences from the nasal septum* is a very painful one, and I have heretofore always given the patients an anæsthetic, without which, even if the patient is willing to stand the pain, the operator is very materially hampered in his manipulations by the involuntary motions of the patient, while if the latter is under the influence of ether, the operator loses his co-operation, and has to work in a more or less constrained position. Thus it will be seen that if we can employ a local anæsthetic like the muriate of cocaine in operations of this kind, not only will the patient be benefited, but also the work of the operator be materially lightened."

(b.) Dr. F. H. Bosworth, says that in the operation for the removal of *polypi*, the drug does not make the operation entirely painless owing to the difficulty of applying the solution to the tumors, but that the mucous membrane to be traversed by the instrument becomes anæsthesized and on account of the power of contracting the vessels, shrinks the usually hypertrophied turbinated tissue and thus opens up the nasal channel and allows of better illumination of the upper portion of the nasal cavities. In rhinology as in

laryngology, Cocaine hydrochlorate may be used with advantage as a therapeutic measure. A pledget of cotton soaked in the solution and passed into the nostrils will give instantaneous relief to the sense of fullness and pressure about the nose in an attack of acute coryza, and will give temporary comfort to the patient during an attack of hay fever or rose cold, and finally Dr. Roberts Barthalow, says:— * * * “It relieves that hypersensitiveness of the mucous membrane, which separates the Hay Fever victim from all other normal subjects. It allays the irritability of the end organs of the nerves, of animal and organic life, and thus, whilst it relieves the local distress, removes the congestion, and checks the secretion. It acts also, on the next link in the chain of morbid impressions, and arrests the wide-spread, reflex disturbances having their common point of transmission in the nuclei of the fifth, and pneumogastric nerves.” (c.) Prof. J. M. DaCosta, also highly recommends Cocaine in *Hay Fever and Rose Cold*, as a palliative. (d.) Concentrated infusion of coca is likewise useful in *acute coryza*. (e.) A solution of 1 gr. in 4 mins. of water to nasal mucous surface will allow an application of *actual cautery without pain*.

(6.) *Dentistry*.—(a.) In dentistry Cocaine is also largely used to *deadens the sensibility of the teeth, and cavities can be excavated without pain to the patient, and fillings introduced* if previous to the operation a pledget of cotton soaked in the solution has been allowed to remain for a few minutes in the cavity. (b.) Even *extractions of teeth* have been performed painlessly by first painting cocaine solution on the gum in the neighbourhood of the tooth and filling its cavities with it. (c.) By the aid of cocaine the *operation, of instantaneously destroying an exposed pulp of a tooth*, is painlessly performed.

(7.) *Gynæcology and Genito-Urinary Affections and Surgery &c.*

(a.) In almost all the operations in gynæcology, cocaine muriate can be used as a local anæsthetic, and even in the *first stage of labor* it is found to do admirable service. The method of application is by painting the surface of the mucous membrane, or by injecting the solution into the tissues with a hypodermic syringe.

(b.) In *vaginismus*, painting the vaginal mucous membrane with a solution of the salt makes the parts insensitive, so that

digital as well as instrumental examination can be made, which before were impossible. (c.) The same is true in the case of *hyper-sensitiveness of the urethra*, both in the male and female, when a catheter is to be introduced, and which is overcome by injecting a few drops of a 4 per cent. solution into the canal. It has also been observed that catheter fever rarely occurs if the cocaine has been properly used. (d) It is also useful in rendering the *caustic injections* into the urethra painless. (e.) Cocaine facilitates the examination of urethra and bladder with the bougie and the endoscope. (f.) It allows of a painless cauterization in balanoprostatitis. (g.) A 2 per cent. solution is useful as an injection in *chordee*. (h.) A suppository of $\frac{1}{2}$ gr. of cocaine into rectum cures pain and tenesmus of bladder.

(8.) *Rectal Diseases*.—(a.) It is being largely used in many London Hospitals in the treatment of piles, fissure, fistula, &c. Mr. Swinton Edwards ligatured six *large hæmorrhoids* in a woman of fifty at the West London Hospital. The operation, which lasted twelve minutes, was almost painless. (b.) In *pruritus ani*, suppositories may be applied with 0·05 of oleate of cocaine. A suppository of $\frac{1}{2}$ gr. of cocaine into rectum *checks pain and tenesmus* of that organ.

(9.) *Skin Diseases*.—Lustgarten publishes some thoroughly practical remarks on this subject. He first states that, Cocaine applied to the skin when the epidermis is uninjured is not absorbed and has no effect, but it acts when the horny layer is thin or absent. *In acute and subacute eczema*, with frequent vesicular and greatly itching relapses, painting with 2 per cent. solution of Cocaine once or twice in twenty-four hours has a good sedative effect on the itching. *In eczema of the anus and genitile regions of both sexes*, in addition to warm sitz-baths and daily washing with soap, Cocaine is very useful. He prescribes—Cocainæ oleatis 0·40—1·00 gramme; lanolini 18·00; olei olivæ 2·00; misce. A portion of this ointment is to be rubbed into the affected part for several minutes twice daily and then powder used.

(a) In skin diseases as *urticaria* and *lichen planus*, good results have been obtained by its addition in ointment.

(b) In a solution of 2 per cent. it is also beneficial in relieving the itching in other irritable skin diseases just as in acute eczema.

(c) In *pruritus ani* suppositories of oleate of cocaine are useful.

(10.) *Venereal and Syphilitic Disorders* :—(a) An injection of a few drops of a two per cent. solution of Cocaine *removes promptly the pains felt in acute gonorrhœa* during micturition and erection. The injection has to remain in the urethra for at least five minutes, and to be repeated four or five times daily. (b) This Cocaine-injection is unrivalled in rendering *caustic injections or the introduction of the catheter painless*.

(c) The burning pains of blennorrhœa in women yeild invariably to small cotton tampons saturated with a two per cent. solution of Cocaine, or to the application of a five per cent. Cocaine ointment. (d) Pointed *condylomata* can be painlessly cauterized, excised, or scraped out with its aid. (e) In cauterization and excision of primary syphilitic affections, Cocaine evinced very desirable analgesic virtues of a sufficiently long duration. (f) Its local effects are highly beneficent in *syphilitic tonsillitis and in stomatitis mercurialis, and in difficulties of deglutition*.

(g) It allows of a painless cauterization in balanoprostatis.

(11.) *Analgesic to Painful Medications* :—

(a.) A small percentage of cocaine added either to *Antipyrine* or *Corr. Subl. or Iodine*, will prevent the pain and smarting of either of them, when used hypodermically. (b.) To still the pain of the application of *Nitrate of Silver*, one may apply several times a 2 per cent. watery solution of Hydrochlorate of Cocaine.

(12.) *Supra-orbital Neuralgia*.—In cases of supra-orbital neuralgia, a 10 or even a 20 per cent. solution in oil of cloves rubbed into the part affords almost immediate relief.

(13.) *Vomiting of Pregnancy* :—Painting the whole of the vaginal roof and cervix freely, with a 15 per cent. solution of cocaine, and also a probe covered with cotton wool and soaked into the same solution and carefully inserted into the cervical canal to the depth of $\frac{3}{4}$ inch is specific in obstinate vomiting in early pregnancy ; cases that had been suffering for weeks were benefited

by cocaine. It may also be given internally in doses varying from $\frac{1}{20}$ to $\frac{1}{6}$ gr.

Sea-sickness :—

(13.) Internally it is also beneficial, when given in doses of $\frac{1}{4}$ gr. every half hour until emesis has ceased, then $\frac{1}{8}$ gr. every hour for 12 hours and then gradually at prolonged intervals, in severe vomiting of sea-sickness. If given in $\frac{1}{8}$ gr. doses thrice a day before sailing it acts as a preventative of sea sickness.

N. B.—As the action of Cocaine is only temporary, and as its efficacy in sea sickness depends on its anæsthetic action on the nerves, small, and frequently repeated doses are much more satisfactory in their results than large and occasional doses.

(14.) *Gastric Disorders.*—Cocaine is also beneficial in vomiting depending on disorders of the stomach. Its efficacy in relieving severe gastralgia (*gastro-dynia*) with or without vomiting, and due to gastric dilatation or ulcer is very marked. In three of my cases, a dose of $\frac{1}{6}$ gr. at once gave relief to severe cramps of the stomach after other remedies failed.

(15.) *Whooping Cough.*—Application of 5 per cent. solution of cocaine, alternating with the application of resorcine, diminishes the violence and frequency of whooping cough.

(16.) *Dropsy.*—Since cocaine is a *diuretic* it is useful in weak heart with dropsy and in *uræmia* with scanty urine.

(17.) *Hydrophobia.*—Dr. Keegan reports that he has successfully treated several cases of hydrophobia by the local application of a 4 per cent. solution of cocaine to the back part of the throat.

(18.) *Diabetes.*—The usefulness of Cocaine in diabetes has been recently proved from a case (though not many) treated by Dr. Oliver. After failure of codeine, and from the observation of the facts that the employment of medicines of the pyrogenic class might be followed by good results in the treatment of diabetes. Dr. Oliver was led to try cocaine in the case of a man aged 43, suffering from diabetes of five months' duration. $\frac{1}{4}$ gr. of cocaine was given three times a day. There was a total dis-appearance of a most obstinate constipation, dis-appearance of a gait not unlike that of

ataxia, of delusions, and a sense of fatigue; the return of a feeling of improved health and strength, with a gain in weight; the marked diminution in the amount of urine excreted; a very decided fall in the daily elimination of sugar.

(19.) *Chloroform Anæsthesia*.—One grain, of cocaine injected near the part to be operated on, five minutes before commencing anæsthesia with chloroform, makes *narcosis much quicker, the stage of excitement is wanting, and less chloroform is needed*. The two drugs being antagonistic to one another, there need be no fear of an overdose of either. After the injection no more chloroform be given unless the operation is a long one. In a case of amputation of the thigh, two drachms of chloroform were inhaled and one grain of cocaine injected at the commencement. 2 drachms more chloroform were required towards the close of the operation, which lasted 20 minutes, there being no vomiting on recovering consciousness. Under the combined benefits of cocaine and chloroform, the consciousness is attained with greater facility and there is absence of general sickness (Prof. Ohalinski).

(20.) *Minor Surgery*.—Cocaine is successful as a local anæsthetic in smaller operations in various parts of the body, the anæsthesia having been brought about by either hypodermic injections or local application of the drug. Into the subcutaneous tissue preparatory to the operations, Lustgarten has used in fifty cases Hydrochlorate of Cocaine, 0·50; 2 per cent. solution of carbolic acid, 10. The author cautions us against the toxic effects of Cocaine, having seen three cases of this action when only Gr. 0·05 had been used.

(A.) $\frac{1}{4}$ gr. of Cocaine injected into the adjacent parts of abscesses, buboes, small tumours &c., allows the operation of cutting almost painless.

(B.) The following are 2 or 3 typical illustrations out of many, which show the usefulness of Cocaine in some minor operations:—

(a.) G. L., æt. 35, had *syphilitic bubo, leaving extensive sinuses*, which ran in different directions down the thigh. Time gave no indication of their closing, and it was concluded to open them. The party did not bear chloroform, and it was decided to give

cocaine a trial. A 4 per cent. solution was injected into the fistulous canals and held there about five minutes. The effect was elegant. Where pain was excessive from exploring with a slender probe before using the cocaine, a grooved director was passed without sensation, and the knife caused the smallest possible amount of pain—"less than a pin scratch," to use the words of the patient. Between eleven and twelve inches of fistulous canals were opened up.

(b.) A lady had been suffering very much for a long time from the *ingrowing of both toenails*. She had been incapacitated for taking exercise; there was loss of sleep, and her health was being undermined. As it was a precedent condition that there was to be *no pain*, chloroform was promised if required, and the operation was begun as follows:—

"A 4 per cent. solution of hydrochlorate of Cocaine was instilled, drop by drop, from the point of a hypodermic needle upon the slightly raw surfaces in the furrows on each side of the ingrowing nail of the big toe. A rag, wet with the same, was kept pressed against the upper surface of the toe, and three injections of this strength were made hypodermically in the flesh at the base of the nail, just above the matrix. The tissues here being thin, and not very cellular in structure, probably ten to fifteen drops may have been received and absorbed.

"After the lapse of fifteen minutes the narrow blade of a fine pointed pair of scissors was passed under the nail, which was divided to the matrix, when the two portions of nail were forcibly extracted with strong forceps, and any shreds of nail remaining at the roots were cleared out."

Having remarked that the operation was finished, the lady, who had not winced, expressed great surprise. After three days she was well enough, wearing a light slipper, to visit friends some miles in the country, and three days later returned to her home in one of the upper counties.

A similar operation was also performed on another patient with success.

(c.) External hæmorrhoids were successfully removed after the application of Cocaine.

(d.) Dr. E. L. Keyes performed circumcision in adults, cauterized mucous patches and removed warts and small growths painlessly with the aid of muriate of cocaine solution. Thus the list of cases might be multiplied *ad nauseam*.

(21.) However enough has been said to show the value of this drug both in medicine and surgery, special and general.

In view of several papers which have lately been published in various medical journals on "The Cocaine Habit," I will, in conclusion, say a few words of warning, and caution the physician on the too free use of this wonderful drug. It is a true saying, that there is no rose without a thorn, and as in many other cases, so also in the use of Coca, harm may be done with it by its abuse. This need not however, deter the intelligent physician from availing himself of its advantages in controlling the alcohol, opium and tobacco habits, or for the purpose of producing local anæsthesia just as he uses opium, alcohol, as well as ether and chloroform with advantage in his profession in spite of the dangers attending the abuse of these medicinal agents.

(22.) *Safe Limit and Precautions*:—After collecting the reports of many cases of cocaine poisoning, the conclusion may be drawn that not more than 3 grs. should be injected at one time and not more than 6 or 7 grs. should be brought in contact with a mucous surface. Special care should be exercised in anæmic and nervous patients, in whom cocaine poisoning is more easily brought about. To avoid anæmia of the brain, a horizontal position or a preliminary injection of 3 drops of Amyl Nitrite are useful.

(23.) *Toxicology*.—In cocaine poisoning inhalation of Amyl Nitrite is useful as it relieves vaso-motor stimulation. For severe convulsions, as a result of cocaine poisoning, chloroform, chloral, or opium, with bromide of potassium, and ice to the head, have been found serviceable in many cases. While on the other hand cocaine is an antidote for opium and alcoholic poisoning.

Doses.—Cocainæ Hydrochloras 1/16 to 1 gr. internally : $\frac{1}{6}$ to $\frac{1}{2}$ gr. or more upto 3 grs., hypodermically, according to circumstances.

COCAINE OLEAS.—An amorphous powder, making a yellowish solution, devoid of odor, having the same taste as the muriate, but does not seem to act as energetically as a local anæsthetic as the muriate.

COCAINÆ SALICYLAS.

Characters.—It occurs in the form of minute snow white crystals. A solution of salicylate of cocaine has been found to keep free from fungoid growth for a considerable time.

Properties.—It has been proposed and used with success, as a remedy for *spasmodic asthma*, in a dose of 6 grs. by subcutaneous injection at the commencement of an attack.

COCCULUS CORDIFOLIUS OR TINOSPORA CORDIFOLIA.

Syn.—*Gulwail, Galo, Giroli (Bom.) ; Gulancha, Gurach, Giloe (Hind.) ; Gadu, Gado (Guj.) ; Amarata-vel (Sans.)*

Starchy Extract (Fecula) is known as *Giloe-ká-Sat; Palo (Hind.) ; Gallo satta (Bom.) ; Gulancha satva, Gulvel satva (Mah.)*

Parts employed.—*The Stem and Starchy Extract.*

N. O.—*Menispermaceæ.*

Habitat.—*Very common on the Western Coast of India ; also found in forests of the tropical parts of Asia and America.*

Characters.—A climbing shrub, usually spreading on large trees ; those spreading on the trees of *Mangifera Indica* and *Azadirachta Indica*, are preferred for medicinal purposes. Its stem, if placed upon a bush in the open air, will retain its vitality through the hot season, and when the rains commence, will put forth leaves and long whipcord like roots, which soon reach the ground. The fresh stem has a green succulent bark, covered with a thin brown epidermis, which peels off in flakes ; it is studded with warty prominences, and here and there gives off roots and branches bearing smooth, heart-shaped, succulent and mucilaginous leaves, or bunches of red berries ; when dry it shrinks very much, and the bark separates from the wood, and becomes of a dull brown color ; the wood consists of a number of radiating, menisperminal porous rings. The taste is very bitter and mucilaginous.

Chemical Composition.—The stem contains a starchy extract, a bitter amorphous principle and a mere trace of *Berberine* &c.

The starchy extract (*Gulvel'satra*) is prepared by cutting the stem into pieces, powdering them and then digesting them twice or thrice in successive portions of cold water, allowing the vessel to stand still for some hours, when the starchy extract is observed settled down, at the bottom of the vessel, as a thick mucilaginous mass; the water is now decanted off together with the pieces of stem, and the starchy extract is allowed to dry. Or, (b) in the above process, instead of decanting the water, the whole of the water with the mucilaginous extract, is slowly evaporated, until it acquires the consistency of treacle. Thus obtained, the starchy extract occurs in pieces of various shapes and sizes, resembling the wheat starch prepared by the natives, of a pure white colour, with a slightly bitter and mucilaginous taste; this extract is simply starch, which, through not having been washed properly, retains some bitterness.

Therapeutical Properties.—It is a well-known medicinal plant long in use in India, and has been largely employed by the vaidis in India who consider it as one of the most important drugs in the whole list of their drugs; in their practice it is much valued as an *antiperiodic*, *alterative*, *aphrodisiac*, *tonic*, and *diuretic*. It is indicated in intermittents, biliousness, jaundice, hemorrhoids, skin diseases, bronchitis, debility, rheumatism, spermatorrhoea, impotence, and as a stomachic tonic in dyspepsia.

It appears to have lately attracted the notice of the Europeans in India, who have used it as a *tonic*, *antiperiodic* and *diuretic*, but it has not come into general use in European practice. In north America it has been employed as a tonic. The starchy extract possesses stomachic, tonic and aphrodisiac properties.

Preparations and Doses.—Decoct. (1 to 10), 1 to 2 fl. ozs.

Tr. (8 oz. to 20 ozs. Pf. Sp.), 1 to 2 fl. drs.

Starchy Extract (*Galo satra*), 10 to 20 grs.

COCCULUS INDICUS OR ANAMIRTA COCCULUS.

Syn.—*Anamirta Paniculata*, *Menispermum Cocculus*, *Indian Coccles*, *Fishberries*, *Cocci Orientis*, *Levant berries*; Kákknári (Hind.); Kákphal, Karvi, Karvatjad (Bom.); Zehere Máhi (Pers.)

Part Employed.—*The Fruit or Berry.*

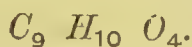
N. O.—*Menispermaceæ.*

Habitat.—*Malabar Coast and Indian Archipelago.*

Characters.—A large beautiful climbing shrub with rough corky bark, bearing a somewhat reniform purple fruit, the size of a small grape, having some resemblance to the bayberry, and growing in a long bunch, each branch of which supports from 1 to 3 of the drupes. The dry fruit is about the size of a large pea, dark brown, and wrinkled, and marked with a circular scar at the hilum. Within the seed is a brown, resinous, and oily kernel, which is highly acrid, very bitter, and if long kept, has an oily rancid smell.

Chemical Composition.—The pericarp contains two crystallisable tasteless substances “*Menispermine* and *Paramenispermine*” of which yet little is known. The kernel contains an active principle called “*Picrotoxine*.”

PICROTOXINE.



Characters and Tests.—It occurs in colorless, flexible, shining, prismatic crystals, permanent in the air, odorless, having a bitter taste and neutral reaction. Soluble in 150 parts of water, and in 10 parts of alcohol at 59° F; in 25 parts of boiling water and 3 parts of boiling alcohol. Also soluble in acids and in solutions of the alkalies. At 392° F the crystals melt, forming a yellow liquid. Concentrated sulphuric acid dissolves *Picrotoxin* with a golden-yellow color, which turns violet red on the addition of a trace of bichromate of potassium; in this behaviour it somewhat resembles *strychnine*; while it differs from alkaloids, in its being not affected by solutions of salts of

mercury or platinum, tannic acid, iodide of mercury and potassium, or other reagents for alkaloids.

History and Uses.—The fruit has been extensively used for a long period by the poachers as a poison for taking fish and game, which it stupefies. It is also used to a great extent chiefly by publicans to impart a bitter taste to malt liquor, and to increase its intoxicating effects. It is chiefly used for adulterating cheap beer, to which it imparts a bitter taste, a darkness of color, fulness of body and increased inebriating qualities. It is brought to Bombay from the Malabar Coast in large quantities for exportation to Europe.

Physiological actions.—It stimulates the vasomotor centre of the *Medulla Oblongata* and hinders paralysis of the respiratory centre. In large doses it acts on the nervous system as an intoxicating agent, and apparently upon the cerebellum.

Therapeutical actions.—The fruit or berry possesses few of the properties of *Nux Vomica* and is useful in small doses in *chronic paralysis*, epilepsy, chorea, leucorrhœa, dysmenorrhœa, *dyspnœa* and *paralysis of the sphincters*. In large doses it acts as an active narcotic, and is poisonous to all animals. 80 grs. of powdered berries with one ounce of vaseline forms a valuable topical application for certain *parasitic skin diseases* as *pediculi or lice*, *porrigo*, and *ringworm of the scalp*. Care should be taken that the skin should be entire where the application is to be made.

Picrotoxine, the alkaloid, is recommended, as one of the best remedies for *profuse night sweating* in phthisis, in doses of 1/60 gr. in pill night and morning. When administered with *bromide of arsenic* it gives excellent results in *epilepsy*. It is also beneficial in *paralysis of the pharynx and of the sphincters*, and in *sick headache*. Externally in the strength of 10 grs., or even less, to an ounce of vaseline, it is beneficially employed in certain parasitic skin affections, in the same way as the berries.

Toxicology.—Picrotoxine is a good *antidote* for *morphine poisoning*, because it has the property of stimulating the vaso-motor centre of the *medulla*, and hinders the paralysis of the *respiratory centre*, which occurs in morphia poisoning, and thus it counteracts the effects of the *morphine*.

It is also an antidote for *chloral poisoning* ; 1/20 gr. of picrotoxine being enough for neutralizing the effects of 30 grs. of *chloral*.

Preparations and Doses.—Cocculus seeds, 1 to 3 grs.

Fl. Ext. berries, 1 to 2 mins., cautiously increased.

Picrotoxine, 1/240 to 1/60 upto 1/30 gr.

N. B.—It is safer to begin always with the smallest dose internally.

COCILLANA.

Syn.—*Sycacarpus Rusbyi* (Prof. Britton.)

Part employed.—The bark.

N. O.—*Meliaceæ*.

Habitat.—*South America*.

Characters.—A species of tree, about 12 metres in height, found growing along the sandy water-courses of Bolivia, South America, and first discovered there by Dr. H. H. Rusby in May 1886. The odor of the bark is slight but peculiar and the taste unpleasant not bitter and slightly nauseous. Prof. Schrenk who has examined the bark both chemically and microscopically, finds certain cells containing large monoclinic crystals of oxalate of lime, and many of the elongated parenchyma cells of the liber almost entirely filled with a yellowish-white, amorphous, sometimes slightly granular substance, which might be considered a kind of latex related to the resinous secretions furnishing gutta percha and caoutchouc.

Physiological actions.—The physiological properties of cocillana bear a close resemblance to those of ipecac., but they are yet sufficiently distinct to classify the drug by itself. Vomiting is especially characteristic, varying only in degree with the size of the dose. Nausea accompanies the vomiting, and, between the two, large quantities of mucus is thrown out ; there is a strong metallic taste corresponding exactly with the degree of nausea. There is also considerable sneezing and a discharge from the nasal mucous membrane. The bowels also become somewhat relaxed. It differs from apomorphine in acting more upon the glands and not on the blood vessels. It will thus be seen that cocillana or its active principle resembles in the main *emetine*, its

action being manifested pre-eminently at its point of excretion—namely, the mucous membrane of the respiratory tract. The vessels of the glands of these surfaces undergo excessive stimulation, after which perfect quiescence follows in the course of a few hours. (e. g., 5 or 6 hours.)

Therapeutical actions.—In many cases, cocillana can be advantageously substituted for Apomorphine, Carbonate of ammonia, strychnine, and other drugs classed as expectorants. The expectorant effect does not seem to be the first stage of nausea, since the appetite is rather increased after the administration of full physiological doses. In chronic pulmonary cases accompanied with viscid secretion cocillana will render the sputum liquid somewhat more surely than *Ipecac.*, and it has the advantage of not causing nausea. It is safer in acute bronchitis than apomorphine, because it does not depress the heart. When the cough is dry and harsh in character, and the expectoration scanty or entirely absent (either ipecac) or cocillana may be used to advantage. If the cough is harsh and dry in character, and there are particles of thick, tenaceous mucus now and then raised, the ammonia salts will be better, though some benefit will be obtained from the use of cocillana (or ipecac.)

Clinical Uses.—From the reports of 40 cases carefully analyzed by Dr. D. D. Stewart, 3 by Dr. Bowen, and 15 by Dr. J. R. Waln &c., which are needless to mention here, the following few practical conclusions, with regard to the clinical use of this new drug, may be drawn:—

(a.) In its first effect concillana seems to be a stimulant expectorant, for the cough has always been increased somewhat at first, as well as the expectoration. But as its action continues, it becomes a sedative, and by overstimulation diminishes the expectoration. (b.) Though it acts upon the alimentary mucous membrane, causing emesis and catharsis, when administered in high dosage, this does not interfere with its employment as an expectorant, since the dose necessary for the latter purpose is quite below that required to produce marked nausea and diarrhœa. (c.) A feeling of weakness and depression after the use of full doses has been occasionally noticed. (e.) This, together with the fact, that it is a stimulant, particularly in the form of the tincture, leads us to contra-indicate it in phthisis and all those pulmonary affec-

tions having associated with them marked emaciation and debility. In the acute affections of the air passages, cocillana should never be employed in the earlier stages, when the mucous membranes are engorged and the cough is merely of an irritative sort without expectoration. As soon as however, as the period of exudation arrives, usually from a week to two weeks after the subsidence of the acute inflammatory symptoms—in a word, when the trouble is about becoming subacute, the use of full doses of the drug will give the happiest results. (f.) In the chronic forms of bronchitis, when there is an expectoration that is scanty, thick, and tenacious, the best results have been secured and positive cures obtained. (g.) In capillary bronchitis and in the chronic forms of broncho-pneumonia, cocillana fails to give uniform relief, and for these we still retain our preference for the ammonia salts.

Preparations and Doses.—Fl. Ext. 5 to 30 mins.

Tr. $\frac{1}{2}$ to 2 drs. small doses of 15 to 25 mins. are preferable.

CODEINA.

CODEINE $C_{18} H_{21} NO_3 H_2 O$.

Syn.—*Codeia*.

Preparation.—An alkaloid contained in opium and separated from the ammoniacal liquors from which morphine has been obtained, by evaporating, treating the residue with water, precipitating with caustic potash, and purifying the precipitated alkaloid by recrystallisation from ether.

Characters and Tests.—In colourless or nearly colourless octahedral crystals, more or less translucent, somewhat efflorescent in warm air, odorless, having a slight bitter taste and an alkaline reaction. Soluble in 80 parts of water and of solution of ammonia; soluble in 17 parts of boiling water, 6 parts of ether and 10 parts of benzol, but almost insoluble in benzin. Readily soluble in alcohol, chloroform and diluted acids. It dissolves in sulphuric acid, forming a colourless solution, which, when gently warmed with molybdate of ammonium or a trace of perchloride of iron, assumes a deep blue color. Moistened with strong nitric acid it becomes yellow but not red (difference from and absence of morphine). Ignited in air it yields no ash.

Therapeutical Properties.

(1.) *Sedative and Anodyne.*—(a.) Wherever a powerful sedative is required which does not interfere with the peristaltic action, as, for instance in various affections of the *heart and lungs* and for the *relief of abdominal pain* when not arising from continued diarrhœa, &c., codeine appears to offer advantages not possessed by any other narcotic. Moreover the dose needful to produce a certain effect does not require increasing on continuance, since in cases of *enteralgia, and of tumour*, the same quantity—1 gr. thrice daily alleviated the pain during several months. (Dr. L. Brunton). (b.) It is now frequently used, not for its narcotic effects, which are feeble and transient, but for an undoubted soothing influence, which it exerts over various *painful affections of the kidney* (Farquharson).

(2.) *Insomnia.*—(a.) As codeine exerts its action upon the nerves, whose irritability it lessens in a remarkable degree, it has been given with advantage in sleeplessness caused by pain in some peripheral regions, where 2 to 4 grs. may be given every four or six hours till sleep is produced (Whitla). (b.) It is very useful in nervous insomnia, and in cases where sleep is prevented by the pain of rheumatism, or cancer, or by distressing cough. (Dr. L. Brunton).

(3.) *Ovarian Neuralgia.*—Codeine in $\frac{1}{2}$ gr. doses three times a day, gives best results in *ovarian pain* whether it proceeds from *displacement, or inflammation* of the organ, or is looked upon as ovarian neuralgia. (Dr. Dujardin Beaumetz).

(4.) *Diabetes.*—It is beneficial in *diabetes and polyuria*, and many grains have been given daily to stop the sugar, by the gradual increase of dose each day.

(5.) *Gastro-Intestinal Sedative.*—It lessens irritability of the *gastric and intestinal nerves* so that arsenic and other irritant medications, produce no vomiting and purging. It is also useful in nausea, *gastrodynia* (gouty), &c.

(6.) *Respiratory Sedative.*—It is beneficial in troublesome *cough of phthisis*. In one case of *obstinate bronchial asthma* Dr. Currie has found it more effective than any other drug in quieting the paroxysms and inducing sound and refreshing sleep. It is especially recommended for irritation and hypersecretion of the bronchial mucous membrane.

Dose.— $\frac{1}{2}$ to 2 grs. as an average dose ; 4 to 6 grs. as an hypnotic.

CODEINE PHOSPHATE.

Being freely soluble in water, it is most suitable for hypodermic injection. It produces no local irritation. The phosphate contains 70 per cent. alkaloid and is soluble in four parts of water.

Dose.— $\frac{1}{2}$ to 2 grs.

COFFEE.

COFFEE ARABICA.

Syn.—*Cafè* (Fr.) · *Kaffee* (Ger.); *Café* (Span.); *Qahwa* (Arabic).

Part employed.—*The Seeds.* *N. O.*—*Cinchonaceæ.*

Habitat.—*Arabia, East and West Indies.*

History.—Coffee and other allied vegetable substances (plants), possessing stimulating properties which primitive peoples employ to enable them to undergo prolonged fatigue, are to be found in every part of the globe, and by the use of which the negro and the Indian are enabled to traverse immense desserts without food. In South America it is the Coca or Maté or the Guarana; in Africa it is the Kola Nut; in Asia it is the Coffee or the Tea plant. It is interesting to remark that all these substances, or nearly all of them, contain one and the same alkaloid, *caffeine*. The study of the Physiological properties of this substance will explain many of the marvels which are related by travellers.

Physiological actions.—Considerable attention has been paid recently to the subject of the physiological action and nutritive value of coffee. There is a prevailing view that coffee or caffeine lessens nitrogenous waste and is an *aliment d'épargne*, or a food that acts by decreasing tissue waste. On the contrary, Professor Gee, asserts, that its use increases nitrogenous metabolism and the excretion of urea. Its utility depends, therefore, upon its stimulant effect upon nervous action and metabolic process. The experiments of Hoppe, Rabiteau, Roux, and others, which showed apparently that coffee causes a slight decrease in the excretion of urea, have not been accepted as of scientific value; while Voit's exact experiments upon dogs showed that there

was an increase in this product. By the use of coffee tissue metamorphosis is slightly increased, and absorbed food is used rather more quickly; but it is not an aliment d' epargne, nor does it act as a food in an appreciable degree. Dr. Reichert reports 3 series of experiments upon dogs, made for the purpose of determining the effects of coffee upon the excretion of urea and carbonic anhydride. His results show that caffeine or coffee increases heat-production and heat-dissipation, and therefore destructive tissue metamorphosis. He concludes that the virtues of tea and coffee are entirely dependent upon the exhilarant effect each has upon the mental functions and its excitation of the higher nervous tissues. It does not replace food or increase the power for work without corresponding tissue destruction.

It has always been asserted that coffee possessed certain antiseptic properties, and Dr. Luderitz has recently made a number of observations on its destructive power upon various microbes. He found that the organisms all died in a longer or shorter period—*e. g.*, in one series of experiments anthrax bacilli were destroyed in three hours, anthrax spores in four weeks, cholera bacilli in four hours, and the streptococcus of erysipelas in one day. It was, however, remarkable that good coffee and bad coffee produced precisely similar effects. He believes that, as previous observers have suggested, the antiseptic effect of coffee does not depend on the caffeine it contains, but on the empyreumatic oils developed by roasting. Coffee exhilarates, arouses and keeps awake. It makes the brain more active, soothes the body generally. It gives the weary increased strength and vigour, and imparts a feeling of comfort and repose. It diminishes the febrile waste of nitrogenous tissue. Vide "Physiological actions of Caffeine."

Therapeutical actions.—(1.) *Green (unroasted) coffee possesses antilithic, antiperiodic and diuretic properties.* It is useful in *urinary and biliary lithiasis, gout, diabetes, intermittents and migraine.* The mode of administration in these cases is as follows:—Two parts of Martinique coffee to one of Bourbon and one of Mocha are mixed together. One ounce of this is put over night to soak in a glassful of water for 10 or 12 hours, and the infusion so obtained drunk fasting in the morning. For two or three days the urine looks black under its administration.

(2.) *Roasted coffee* possesses (as just mentioned under its physiological actions) *antiseptic and germicidal properties*, and is a suitable adjunct to iodoform externally, for the purpose of both increasing its antiseptic power as well as for masking its disagreeable odour to a certain extent.

(3.) *It counteracts the stupor occasioned by disease, fatigue &c.* It is also useful, as *an antidote to, or to counteract the effects of, opium, alcohol and other narcotics*; and may be administered in form of a strong infusion by the mouth, or by the rectum, or in both ways, according to circumstances of the case or effects of the poison.

(4.) Owing to its tonic effects on the heart it is useful in typhoid fever and may be employed in adynamic fevers to replace alcohol.

(5.) It has been used with success in the treatment of various nervous diseases, *sick headache*, whooping-cough, hysterical affections, as a palliative in *spasmodic asthma*, in cholera, *cholera infantum*, obstinate chronic diarrhoea, croup and *calculus nephritis*.

(6.) Dr. S. Mitchell has lately employed coffee in *cocaine-poisoning* with good effect, and reports thereon as follows :—

(1.) The many and varied symptoms arising from cocaine-poisoning are so distressing to the patient and trying to the physician, that the ingenuity of the latter is often taxed to the utmost in striving to relieve the same.

The extreme pallor, muscular weakness, and feeble and irregular pulse, seem to demand the most active stimulation, and yet all who have been called upon to relieve these cases and have turned, almost instinctively, to such remedies as ammonia, brandy, and digitalis have, I doubt not, in cases where the symptoms are very pronounced, been sorely disappointed.

In the very mild cases these remedies have afforded almost immediate relief. But their action is singularly inefficient where the slight dizziness, faintness, and trembling are speedily followed by great pain in the præcordial region, a weak and rapid pulse, sighing respiration, borborygmus, and belching of gas from the stomach, stiffness of all the muscles, and finally, paralysis of nearly the whole body except the brain, and this remains preternaturally active.

These severe and protracted symptoms I witnessed recently in one of my patients, and since this occurrence, when using cocaine hypodermically, a vision arises before me of this patient as she appeared with the whole body apparently paralyzed except her tongue. This unruly member continually uttering words of reproach to me for the helpless and hopeless condition in which I had placed all the other members, gave me a sensation that I have no desire to experience again.

(2.) It was in this case that I first employed coffee as an antidote for cocaine-poisoning. After using ammonia, brandy, and digitalis both hypodermically and orally, also heat and general faradization without any apparent effect, unless it was to stimulate my patient's tongue to utter such cheerful and encouraging remarks as "Oh, doctor, I am paralyzed! I am dying! Oh, why did I come to you?" and while cudgelling my brain to think of something that might be more effective than the remedies already employed, came the suggestion to try coffee. It was given pure, a large cupful being administered inside of two minutes.

The effect was all that could be desired. The pulse very soon improved, the pain and sense of oppression about the heart were relieved; in fact, all the disagreeable symptoms, except the stiffness of the muscles, passed away very rapidly, greatly to the relief of patient and physician.

I have employed it since in a great many cases when the toxic symptoms of cocaine began to show themselves, and always with perfectly satisfactory results. I have also employed it to relieve the extreme nausea with heart-failure that sometimes follows the administration of ether, and always with better results than with any other remedy.

I use it as ordinarily prepared for the table, with the exception that I pay no attention to the temperature. It is just as effective when used cold as hot.

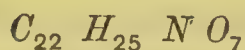
It has been suggested to me to try caffein hypodermically, as likely to be more effective in these cases than the infusion. But I do not think it would answer at all, as caffein is a sedative, and its therapeutic effect seems to be scarcely at all identical with the pleasant and invi-

gating stimulation of the infusion that makes it so deservedly popular which properties can hardly be attributed to the alkaloid caffeine.

Preparations and Doses.—Coffee Seeds, 20 to 40 grs., or the equivalent, in wine or tincture.

Fl. Ext. of the roasted seeds, 15 to 60 mius.

COLCHICINE.



Syn.—*Colchicia*.

Characters and Tests :—Almost colorless slender needles, easily soluble in water, alcohol and chloroform, having an alkaline reaction without odor, but having a bitter taste. Nitric acid colours colchicia deep violet, which passes into indigo blue, and quickly becomes, first green, and then yellow. Concentrated sulphuric acid colours it yellowish-brown.

Physiological actions.—It is acrid and sedative. Taken internally, in small and repeated doses, it promotes the action of the secreting organs, especially the intestinal mucous membrane. The kidneys, and skin, and the liver, are less certainly, and obviously, affected by it. It produces rapid waste of tissue and promotes the elimination of the products of tissue waste. In larger doses, it affects the stomach somewhat like emetine, giving rise to nausea, vomiting and diarrhœa. Reduction of the frequency of the pulse is a common, though not an invariable, effect. Colchicine causes disappearance of muscular irritability, spasms, and paralysis of the central nervous system. The blood pressure sinks gradually in consequence of the lowering of the irritability of the vaso-motor centres. In excessive doses, colchicine acts as a powerful poison; death being preceded in most of the cases by acute pain in the bowels, incessant vomiting, purging, tenesmus, and an imperceptible and intermitting pulse. Delirium, convulsions, and coma have also been observed.

Therapeutical actions.—An ocular affection of the gravest character marked by injection of the sclerotic, frequently assuming a

chronic form, with points of infiltrations in the corneal tissues. In most of these cases the iris will be thickened and the exudations will make it to adhere to the lens. In many cases it will occur in rheumatic subjects, in others those who are affected with gout, while in other forms it would be difficult to decide whether the subjects are of a rheumatic or gouty diathesis or whether they belong to those ordinarily affected with *chronic scleritis*. In these cases after failure with salicylate and lithium, *colchicine* has been beneficially employed in doses of 2 to 4 granules per day, each containing 1/16 gr. of colchicine, (Dr. Darier). 1/32 gr. in 15 mins. of water is useful hypodermically in *chronic rheumatism and neuralgic joint affections*: However it must be used with caution as it is a cumulative poison. Internally, in small doses, it acts as a diuretic and in pretty large doses as a purgative. In combination with a saline purgative, it relieves constipation, *hepatic congestion and headache of gouty persons*. It is also useful in *gouty bronchitis, uric acid diathesis and dropsy*.

Dose.—Colchicine 1/100 gr. in pill or hypod., as an initial dose, and to be increased to 1/32 to 1/16 gr.

COLLINSONIA CANADENSIS.

Syn.—Stone Root, Hardhack, Ox Balm, Knot Root, Healall, Rich Weed, Horse Weed, &c.

Part used.—The Root. N. O.—*Labiatae*.

Habitat.—United States.

Therapeutical Properties.—It is tonic, alterative, antispasmodic, astringent, diaphoretic, diuretic and resolvent, and in the recent state emetic.

(1.) *Genito-Urinary Affections*.—(a) It is highly esteemed all throughout the United States as a household remedy for *gravel and urinary affections*. It relaxes spasms of the ureter and urethra, and by increasing the urinary flow and lessening sensitiveness of the mucous membrane of the genito-urinary passages, *facilitates expulsion of the small calculi*. If the calculi be large it is powerless to expel or dissolve them but will lessen suffering of the patient by

lessening irritability of the bladder and urethra until complete relief be obtained by surgical method. (b) It is useful in *acute cystitis*, when combined with morphia and aconite. (c) It *relieves hyperæsthesia of prostatic portion of the urethra or of the neck of the bladder* in cases of nervous persons suffering from gonorrhœa. (d) It is effective in prostatorrhœa, leucorrhœa, chronic gonorrhœa or gleet, when copaiba, cubebæ and sandal oil have failed. (e) *Vaginismus and vague pelvic pains* have been relieved by a suppository of powdered root.

(2.) *Intestinal Affections*.—(a) *Constipation, hemorrhoids, rectal neuralgia*, and vague abdominal symptoms are due more frequently to sphincter ani and here suppository of the root, 40 to 90 grs. in powder, put into the rectum will give relief. (b) Internally it is useful in *flatulent and infantile colic*, in doses of 10 to 30 mins. of the tincture for children, and 1 to 2 drs. for adults. (c) It is useful in *gastro-intestinal catarrh, and catarrhal gastritis of beer and alcohol drinkers*; in these cases it lessens desire for liquor and restores the normal tone of the alimentary canal.

(3.) *Biliary Colic*.—In cases of *biliary calculi* it is especially given in *warm infusion* so as to thoroughly relax the biliary passages and facilitate the onward movement of calculi.

(4.) It is effective in *relaxation of the uvula and chronic pharyngitis*.

(5.) *Chorea*.—In chorea it is as effective as *actea racemosa* and may be substituted for arsenic if chorea occurs in *infancy or childhood*.

(6.) *Coughs*.—It is palliative, if not curative, in whooping cough, nervous and irritative coughs.

(7.) *General Tonic*.—In small doses it acts as a mild and general tonic for *dyspepsia, anæmia, chlorosis, and after eruptive fevers*.

(8.) *External uses*.—Externally it is useful for *contused and incised wounds and for indolent ulcers*, in the form of an ointment composed of 1 dr. of powdered root to an ounce of lard. *Ascarides* are destroyed by rectal injection of fluid extract 1 part to 4 parts of water.

Preparations and Doses.—Powdered Root, 5 to 30 grs.

Fl. Ext., 2 to 10 mins.

Solid Ext., 2 to 5 grs.

Inf. (1 to 20), 1 to 2 fl. ozs.

Tr. (1 to 8 Pf. Sp.) 1 to 2 Fl. drs. for adults; 10 to 30 mins. for children.

Collinsonin (concentration), 2 to 4 grs.

COLLODIUM, B. P.

COLLODION.

Practical and Surgical Uses.—(1.) It is a powerful antiputrescent, and by rapid evaporation and contraction it exercises the dual antiphlogistic power of refrigeration and compression. *In acute orchitis* there is no plan of treatment so simple, rapid and satisfactory as coating the cord and scrotum with layer of collodion by camel hair brush. The sensation is momentarily sharp, shrinkage rapid and so is the subsidence of the inflammatory process.

(2.) Collodion is especially applicable for the compression to the swollen parts which cannot well be bandaged. When the *nasal bones are fractured*, a very effective mode of keeping them immovable after adjusting them with finger, is to place over the nose a piece of absorbent cotton soaked in collodion. As it dries another layer of cotton and collodion to be applied, taking care that the application extends sufficiently on each side to give buttress-like support.

COLLODIUM NOVUM.

A NEW IMPROVED COLLODION.

Preparation—Mastiche grms. 3; Bals. Peru, grm. 1; Narcotine grm. 1; Chloroform grms. 5. Separately ground the first three ingredients and then mix them with chloroform; shake the mixture from time to time and allow it to rest after solution.

Properties and Uses.—A new improved form of collodion, which does not cause inflammation and may be substituted for ordinary collodion in treating wounds and bruises. Also efficacious like trau-

maticine in relieving neuralgic pains, acute or chronic rheumatism. The affected parts should be sponged with it every 24 hours and in serious cases every 6 hours. If strips of linen or silk be soaked in this solution an excellent plaster is obtained which equals the English Court Plaster. This new collodion is also *antiseptic and facilitates cicatrization.*

COLLODIUM STIPTICUM.

Syn.—Hæmostatic collodion.

FORM No. 1.

Preparation—Collodion, parts 100 ; Acid Carbolic, parts 10 ; Acid Tannic, parts 5 ; Acid Benzoic, parts 5. Mix all in this order.

Properties and Uses.—It instantly coagulates blood, forms a consistent clot, and the wound rapidly cicatrizes. It is an hæmostatic and antiseptic for wounds, cuts, &c.

FORM No. 2.

Syn.—Styptic Colloïd.

Preparation.—Place 20 parts of Tannic Acid in a tarred bottle, add 5 parts of Alcohol, 20 parts of Ether, and 55 parts of collodion, and agitate until the Tannic Acid is dissolved. Keep the product in a well corked bottle, in a cool place, remote from light or fire.

Properties and Uses.—Excellent for abrasion, *foetid wounds*, and for arresting hemorrhage. Also useful in veterinary practice. It is not so effective as the Form No. 1.

CONDURANGO.

GONOLOBUS CONDURANGO.

Syn.—Pseusmagenuetus equatoriensis, Rusch.

Part used.—The Bark. N. O.—*Asclepiadaceæ.*

Habitat.—Equador and Central America.

Therapeutics.—The bark is used as an alterative in chronic syphilis, also in cancerous diseases. In cancer of the stomach it has been found to mitigate the pain, improve the appetite, and improve

the weight of the patient considerably. It is tonic, diuretic, deobstruent, and in large doses emetic.

Preparation and Doses.—Powdered bark, 30 to 60 grs.

Fl. Ext., 30 to 60 mins.

Tr. (1 to 8 Pf. Sp.), 1 to 4 Fl. drs.

CONINÆ HYDROBROMAS.

Preparation.—It is obtained by treating the alkaloid “conine, cicutine or conicine” with aqueous bromhydric acid, which causes, especially with the brown variety of conia, an elevation of temperature, and a disengagement of white fumes of the odor of conia, which resembles like that of the urine of mice; the mixture then turns green and finally blackish-red. The crystals, which form after sometimes, may be obtained quite colourless by repeated recrystallizations.

Characters.—Colourless, prismatic needles, soluble in water and alcohol, less so in ether and chloroform, inodorous and almost tasteless, and not deliquescent. They should be kept in the dark, otherwise they assume a red tint.

Physiological actions.—Conine paralyses the central nervous system, and acts like curarine upon the ends of the motor-nerves. First there is paralysis of the voluntary muscles of lower extremities, the mind becomes torpid, but remains unclouded and sensation is unaffected till toward the last, though there is a sense of numbness.

Therapeutical actions.—(1.) The salt has been used by various practitioners with great success in the treatment of *whooping-cough*, in doses of about one-twelfth of a grain, if necessary, every hour, for a child three years of age; or one-thirtieth of a gr. for a child of one year; or one-sixth of a gr. for adults. It acts as a *sedative to the respiratory centres* and is useful in spasmodic affections of chronic bronchitis. (2.) In *sciatica* it has been employed hypodermically in quantities of $\frac{1}{12}$ gr. with good results. (3.) It is very suitable in *acute mania* without organic brain disease, and *epilepsy*. (4.) In *neuralgia* it is recommended to be given commencing

with $1\frac{1}{2}$ gr., but not exceeding $4\frac{1}{2}$ grs. per 24 hours. (5.) Beneficial results have been obtained by its employment in *paralysis agitans*, *chorea*, &c. (6.) Externally, pessaries composed of $\frac{1}{2}$ min. of conine in each, are useful sedative in *painful affections of the rectum and uterus*, &c.

Preparations and Doses.—Coninæ Hydrobromas, $\frac{1}{6}$ to $\frac{1}{2}$ gr., to be gradually increased to $1\frac{1}{2}$ gr.

Inj. Coninæ Hydrobrom. Hypod.—Strength, 1 gr. in 20 mins.
Dose.—1 to 3 mins.

CONVALLARIA MAJALIS.

(LILY OF THE VALLEY.)

Syn.—*Muguët* (Fr.) ; *Maiblumen* (Ger.)

Parts employed.—The Leaves, the Rhizome, and the Flowers.

N. O.—*Liliaceæ*.

Habitat.—North temperate zone, viz., Europe, United States, and Northern Asia. Grows plentifully in the Caucasus Mountains.

Characters.—A low perennial herb, glabrous, stemless, with a creeping, whitish, much-branching rhizome of the thickness of quill, and sending up from a scaly-sheathing bud, two oblong leaves, with their long sheathing petioles enrolled one within the other, so as to appear like a stalk, and an angled scape bearing a one-sided raceme of pretty and sweet-scented flowers, which are white, about a quarter of an inch long, bell-shaped, six-lobed, with the lobes recurving, have six stamens inserted near the base of the perianth, and produce globular, few-seeded red berries. The cultivated flowers are somewhat larger. They are very fragrant, and have a bitter and acrid taste. It is frequently cultivated in gardens, and spontaneously appears in several places.

Chemical Composition.—The herb and the root contain two peculiar principles, one crystalline and acrid, with a *cordial effect* in a high degree, called *convallamarin* and which exists to a greater degree in the flowers. The other is amorphous and bitter, called *convallarin*, which acts upon the organism as a *drastic purgative*, and which exists greatly in the leaves and rhizome. This is important to bear in mind ; because this gives us a clue to understand, the *modus operandi* of *convallaria*,

and also the different effects of the preparations of convallaria, according as they are prepared from the root, leaves or flowers.

Convallarin, $C_{34} H_{31} O_{11}$.—Is a pale brown glucoside in rectangular prisms, soluble in alcohol, sparingly soluble in water, but foaming with it like saponin, and insoluble in ether; taste acrid. On being boiled with dilute acids it is spilt into sugar and convallaretin.

Convallamarin $C_{46} H_{44} O_{24}$.—Is a white powder, very bitter and afterwards sweetish, soluble in water and alcohol, but not in ether; its solutions are precipitated by tannin, but not by lead salts, and when boiled with dilute acids it yields sugar and convallamaretin. Sulphuric acid dissolves it with a brown colour, but if it be treated with this reagent after having been moistened [? with water], a beautiful violet colour is developed which disappears upon the addition of water.

History and Early Uses.—Lily of the valley is well-known by its poetical associations, its delicate beauty, and its fragrance, which resembles that of orange flowers. The Russian country folks, like the Indians of this country, are a very primitive people; and being almost beyond the reach of civilization and the medical advantages it offers, they have learnt to help themselves in cases of emergency. But whilst everybody is more or less of a herbalist or nurse, each village generally has its *znaharka* or wise-woman, who occupies about the same position as the Indian medicine-man. While on a summer tour through Russia—my native country—some years ago, I took especial pains to obtain information concerning their methods and means of treating disease. As may be expected, it was difficult to gain the confidence and goodwill of the jealous and suspicious women, but whenever successful in that respect—with the aid of alcohol and flaming dress-goods—a very curious insight into popular medicine and pharmacy was afforded me. The revelations in the majority of cases consisted of unmitigated trash, but here and there I obtained ideas, hints, and positive knowledge, which were well worth retaining. Among the latter I class what I learned of the uses of that beautiful fragrant little wild-flower, the Lily of the Valley (*Convallaria Majalis*). The fragrant flower, however, deserves the closest study of the therapist. My attention was first called to it by witnessing the relief derived from it by an old man in the last stages of chronic dropsy. He used it as a diuretic and tonic of the

heart, and it seemed to be so very efficient that I made his case an object of special observation, he willingly lending himself to my experiments. The flowers were formerly used in epilepsy and against worms. (Ralph D' Ary, M.D.).

Physiological Actions.—In its mode of action *convallaria* resembles *digitalis*, but its action is *not cumulative* and its diuretic power is constant and decided. *Convallarin* has no marked physiological effects, except as a purgative. *Convallamarin* slows the heart and raises arterial tension. It acts on the heart through the vagi nerves which it stimulates ; but in poisonous doses, the vagus nerve does not wholly lose its irritability, and here the irritability of the motor and sensory nerves remains unaffected. It increases the volume and force of the respirations.

The effects on the system of the two principles of the plant have been investigated by Dr. H. Marmé, of Germany, with the following results : *Convallarin* in doses of three or four grains, acts as a purgative, without observable inconvenience to the animals acted on ; *convallamarin*, even in small doses, produces active vomiting, whether given by the mouth or injected into the subcutaneous tissue, or directly into the veins. The latter principle acts especially upon the heart, at first diminishing the number of its pulsations, and afterwards rendering them more frequent, and causing death in a few minutes after the introduction of the poison. The heart appears to be paralysed and cannot be excited after death. He adds that there is no doubt that *convallamarin* is a heart poison, and that its physiological action approaches qualitatively and quantitatively that of *digitalin*, *helleborin*, the *upas principles*, &c.

Therapeutical actions.—(1.) *Convallaria compared with Digitalis*:—*Convallaria majalis* has no deleterious effects on the economy, and has no cumulative action like *digitalis*. One is often obliged to suspend the employment of *digitalis* on account of vomiting, digestive disturbances, cerebral excitement, the dilatation of the pupil, which it so often produces after a prolonged use of this medicament, &c. The final action of *digitalis* is exhaustion of the heart, increase with enfeeblement of the heart's pulsations—just the opposite effects from that what we seek when we give the drug. *Convallaria* is more a

cardiac regulator than digitalis but cannot compare as cardiac stimulant to digitalis and caffeine.

(2.) *Convallaria* constitutes one of the most important cardiac remedies which we possess. In small doses it produces on the heart, blood vessels, and respiratory organs, effects constant and constantly favourable : to-wit : *slowing of the beatings of the heart*, with often a restoration of the normal rhythm, and on the other hand, *augmentation of the energy of the heart, also of the arterial pressure* ; in fine, the inspiratory force is increased, and the *besoin de respirer* is less injurious, less painful. The effect the most powerful, the most constant, and the most useful *is the abundant diuresis*, which is above all things essential in the treatment of cardiac dropsies. (Prof. G. Sée).

(3.) *Organic and Functional Cardiac Affections*, &c.—Prof. Germain Sée deduces the following results from many experiments made both on animals and man :—

(a.) *Convallaria* is indicated in *simple cardiac arrhythmia*, with or without hypertrophy of the heart, with or without lesions of the orifices or valves of the heart. (b.) *In mitral constriction*, especially when it is accompanied *with failure of compensation on the part of the left auricle and right ventricle* ; the contractile force augments visibly under the *convallaria* as the sphygmograph testifies. (c.) *In mitral insufficiency*, especially when there are *pulmonary congestions* and when, as a consequence, there is dyspnœa with or without nervous trouble of the respiration. (d.) *In Corrigan's disease* the peripheral arterial pulsations disappear, and respiration becomes markedly restored. *In dilatation of the left ventricle without compensatory hypertrophy* it restores energy to the heart, which tends to become more and more feeble and dilated. (e.) *In dilatations of the heart with or without hypertrophy, with or without fatty degeneration, with or without sclerosis of the muscular tissue*, the indications of the *convallaria majalis* are clear. (f.) *In all cardiac affections indifferently, from the moment that watery infiltrations appear*, the *convallaria* has an action evident, prompt and certain. (g.) In lesions with dyspnœa the effect is less marked. To combat cardiac dyspnœa, *convallaria* is inferior to morphia, and especially to iodine, but morphia suppresses the urine, and the preparations of iodine

are every way preferable. *The combination of convallaria majalis with iodide of potassium in the treatment of cardiac asthma constitutes one of the most useful methods of treatment. Finally, in cardiopathies with dropsy the convallaria surpasses all other remedies.*

(4). Professor Beverly Robinson, having used *Convallaria Majalis* in a number of cases of *chronic cardiac disease*, reports, that in cases having *dyspnœa, oppression, localised pain, palpitation*, doses of five to ten drops every three hours of the fluid extract notably diminish these phenomena. *The physical signs are also lessened in degree.* Thus the pulse becomes stronger and more regular, the heart-sounds acquire additional force, and the painful palpitations disappear, *dyspnœa* is often favorably modified, and the respirations become slower and deeper. *Anasarca* is not much influenced by it, the urine scarcely if at all increased, nor its solid constituents manifestly modified. It is well borne by the stomach. Prof. R. believes that the drug exerts its influence through the pneumogastric nerve rather than upon the cardiac muscle. It does not restore rhythmic heart-action to the same degree as *digitalis*, nor does, he thinks, it equal the latter in increasing cardiac contractility. Its *one* advantage over *digitalis* seems to be the absence of cumulative effects. It is greatly inferior to *caffeine* as a diuretic, though superior to it as a cardiac invigorator, and less variable in its action.

(5). Dr. E. L. Trudeau, of Saranac Lake writes : "It has been noted that in some cases of cardiac difficulty it acts most energetically, while in others it is of little value. Some broad indications to guide us in its use are, therefore, most desirable. From a year's experience in prescribing this drug, it has seemed to me that such an indication may, perhaps, be found in the fact that it is most successful in all cases where to restore the balance of the circulation, stimulation of the *right* heart is imperative, while it is much less active where increased energy on the part of the left ventricle is called for. Its striking power in relieving the orthopnœa of mitral disease, increasing at the same time the flow of urine, and its failure to mitigate the symptoms of aortic mischief, or to increase the flow of urine in such cases, are clinical facts which tend to confirm this suggestion. It is in relieving *dyspnœa* that *Convallaria* attains its

most brilliant results, while it has only an uncertain and trifling power over œdema and dropsy, and it succeeds often in precisely the cases in which digitalis fails. Another indication for its use, not hitherto dwelt upon, is in controlling the symptoms of purely functional heart disorder.

(6). Bogoyavlenski treated with *convallaria valvular non-compensated lesions*. Under its influence the quantity of urine increased *pari passu* with the disappearance of œdema; the heart contractions became more clear, more regular and slower; the statis in the small and large circulation began soon to disappear. The diuresis kept on even after stopping the use of the remedy.

(7). Troitzky has noticed the happy effects of this remedy, especially in such cases where the *asystole is caused by a nervous state which stops or hinders the compensation*. He has used a less concentrated infusion of from 3.06 grammes to 7.02 grammes in 180 grammes of water, and has given of this infusion three or four spoonfuls per day in nervous palpitation of the heart. The effects obtained have always been very marked and singular; they have persisted for nine days after suspension of the administration of the remedy. The general excitation, the dyspnœa, and the intensity of the palpitations disappeared completely. According to the same author, the *convallaria* did not, like the digitalis, give as favorable results in aortic as in mitral insufficiency, but it is much superior to digitalis in nervous palpitation.

(8). (a) *Convallaria loses its effectiveness in heart diseases, valvular or otherwise, in proportion to the amount of fatty degeneration of the heart*. It is admitted that digitalis is also subject to this rule, but its effectiveness is far superior to *convallaria*. (b) *Mitral regurgitant disease, without irregularity, is less positively benefited than other forms of cardiac disturbance, perhaps because in these cases fatty degeneration is frequently present, especially if there is irregularity*. (c) Among the group of organic valvular diseases in which *convallaria* may be more serviceable than digitalis, is *mitral obstruction* and it is precisely in these cases that digitalis sometimes fails us. (d.) In conclusion, it has appeared to me that if at all useful *convallaria* is more of a cardiac regulator than digitalis.

Augmentation of the systole is not so apparent, and the *drug cannot compare as a cardiac stimulant to digitalis or caffeine*. An infusion of the flowers and leaves, made similarly to the infusion of digitalis, ought to represent the virtues of convallaria, although I have always employed the fluid extract in doses of 15 to 20 drops every three hours until the desired effect has been produced. A week or ten days' trial should suffice to develop the possible usefulness of convallaria. (R. D' Ary. M.D.).

(9.) As regards the functional heart affections, convallaria is indicated in *palpitations* resulting from a state of *exhaustion of the pneumogastric nerves*, cardiac paresia, the most frequent source of palpitations. (b.) *In palpitations dependant on general debility, anæmia, hysterical cases and irregular heart's action due to tobacco*. (c.) Also useful in cases of *palpitations and dyspnœa associated with phthisis or asthma, before cardiac failure from fatty changes ensue*.

(10.) *Nervous Affections*.—It is not a narcotic or anodyne simply, and does not therefore allay pain by stupefying the patient's sensibility, but acts as a direct nerve tonic and sedative, restoring the equilibrium of nerve centres; is an excellent nervine sedative tonic especially in cases where patients suffer from excessive reflex irritability or nervousness. Thus in certain states of *insomnia, hysteria, restlessness of fevers, infantile nervous disorders caused by dentition, tic douloureux*, it is beneficial.

(11.) *Pulmonary Affections*.—It is very beneficial in controlling the *dyspnœa in cases of emphysema, fibrous, and chronic phthisis* (cases in which digitalis frequently fails); it is similarly beneficial in cases of *acute lung affections associated with cardiac irregularity, as croupous pneumonia and in cases where digitalis has failed*.

(12.) *Dropsy*.—As regards its usefulness in various forms of dropsy, it may be said, that it is *applicable in mitral diseases with dropsy*, but when there is albuminuria (Bright's disease), its diuretic action is considerably lessened. However sufficiently being said before, regarding its use as such, in the heading of "Organic and Functional Cardiac Affections," there is nothing further left to be mentioned.

(13.) Lastly the flowers possess emetic and cathartic properties, and their extract purges actively in the dose of half a drachm. They are employed in Russian household as a sternutatory, for which purpose they are dried and reduced to a coarse powder. The root has also purgative properties, and, reduced to powder, is said to be sternutatory.

(14.) *Clinical Reports.*—Having so fully described the most important therapeutical and clinical uses of *convallaria majalis*, I should be very limited in giving its clinical reports, and close this subject by giving only the three following cases out of many :—

Report 1. On February 3, 1881, at the ambulance of Professor Botkin, a woman applied for medical aid. She was 30 years old, of medium size, thin and anæmic. She complained of constant dyspnœa, palpitation and pain about the heart, radiating into the left arm, and down, along its internal aspect, into the fingers. Exacerbations of these symptoms took place several times a day, and sometimes in the night. She was unable to work, and losing flesh ; could sleep but little, and only in a sitting posture. Had suffered for ten months, although she had been constantly treated by physicians. The cause of her illness was unknown to her. Her thorax was normal, breathing superficial, 48. Radial pulse small, 116 ; whilst the carotids and aorta pulsated violently. Her hands trembled very much. Immediately below the left clavicle there is a very noticeable dullness, which extends along the left parasternal line, and which over the third rib merges completely into the absolute dullness of the cardiac region, the latter extending towards the right as far as the median line. The heart impulse is vigorous, and in the normal situation. The second heart sound is more pronounced. The respiratory murmur along the parasternal line is weak and short, but improves after deep breathing. On palpation of the abdomen the right kidney was discovered to be painful and movable.

Professor Botkin pronounced the case one of neurosis of the cardiac apparatus, taking the form of angina pectoris, and which had already caused a change in the dimensions of the heart ; thus its

diameter was increased so as to reach the median line, and increase in the size of the left auricle was indicated by the dullness along the left parasternal line. In consequence of the insufficient evacuation of these parts of the heart, there was abnormal blood supply to the lungs, and dyspnoea. The cardiac neurosis in this case is probably due to reflex influence from the abnormal situation of the right kidney, which was not only irritated itself, but kept up an irritation of the adjacent organs. The patient was ordered to apply clay poultices to the cardiac region, to take two or three warm baths a week, and to wear a special belt to retain the kidney in its proper position. Internally she received.

R Camp. monobrom, dr. j.; Chloral hydrat. dr. ss; Pulv. acaciæ;
Sacch. albi. ää dr. j.; F. Pill. No. 60. S. Two pills three times a day.

On the 10th there was no improvement. Examination showed only slight sensitiveness of one kidney. The patient was now given tinc. convallariæ majalis, 10 drops four times a day. The baths and belt were continued. On the 17th the patient reported that she obtained relief from the very first dose of the medicine, and now feels well. She can sleep in the recumbent position, has no more palpitation or dyspnoea. Pulse 80-90; respiration 22. The parasternal dullness is less marked. Cardiac dullness now extends only as far as the left parasternal line. Pulsation of the aorta is still too violent, but less than before. Heart tones clear, with slight accentuation of the second sound. When breathing deeply there is a vesicular murmur, though rather weak, along the parasternal line where the dullness was. The right kidney is less sensitive. The whole success in this case of rather complicated cardiac neurosis, is evidently due to the tincture of convallaria, since the remedies previously employed had no effect. Our usual cardiac remedies—digitalis and adonis vernalis—says Professor Botkin—in the vast majority of cases of cardiac neuroses, have no effect whatever, whilst convallaria generally acts like a specific. But in these cases it should be used in the form of an alcoholic tincture, not an infusion.

Report 2 and 3 by Dr. E. P. Hurd, of Newbury Port.—I have lately employed Parke, Davis & Co.'s preparation of Lily of the Valley

(fluid extract) in two cases. The one is a patient suffering from Corrigan's disease—partly compensated. He is incapacitated for any but very moderate exercise ; has attacks of syncope, dyspnœa and angina. Though he has taken the convallaria only three days, he has been entirely free from his usual faint and giddy turns, has had no angina pectoris, and has been able to do his work with increased comfort. The other is a case of aortic and mitral insufficiency, with enormous dilatation and marked asystolism. There is dyspnœa (orthopnœa) from pulmonary stasis and hydrothorax, some œdema of the extremities, vomiting and digestive disturbance. This patient is greatly dependent on hypodermics of morphia. I have prescribed the liquid extract of convallaria in doses of five drops every four hours. So far the effect has been gratifying. There is more force in the cardiac pulsations, and in the pulse at the wrist. The dyspnœa is relieved. The quantity of urine is notably augmented. The patient has better nights, and can take more food. I do not look for any permanency in these good results ; granulo-fatty degeneration of the heart is evidently far advanced.

August 30.—Mrs. C——, the patient referred to in the last paragraph, continues to improve after a fortnight's use of the new remedy. The cardiac contractions are slower and more friable, the dyspnœa has disappeared with the pulmonary stasis and the hydrothorax. She can now lie down *flat on her back*. This relief has been coincident with a copious diuresis, commencing the third day of the administration of the medicine. For several days the quantity of urine passed during twenty-four hours has been as high as sixty ounces (before commencing the remedy the average quantity *per diem* was eight ounces.) The dose now taken of the convallaria majalis is twelve drops every four hours. For a while I was able to suspend the morphine injection (one grain at night subcutaneously), but latterly I have been obliged to resume it on account of the return of the angina, from which she has long been a sufferer. It is evident that the convallaria has done all that any remedy could be expected to do in this case, as atheromatous changes in the nutrient vessels of the heart are more than probable.

Preparations and Doses.—Flowers, 5 to 10 grs.

Fl. Ext. of the root, 5 to 10 mins.

„ „ „ flowers, 5 to 15 mins.

„ „ „ herb, 15 to 30 mins.

Solid Ext., 2 to 8 grs.

Inf. (Flowers grs. 10 to water fl. ozs. 6),
1 to 2 tablespoonfuls.

Tr. (1 of flowers and stalks to 8 of Pf.
Sp), 5 to 20 or 40 mins.

Convallarin, 3 to 4 grs.

Convallamarin, $\frac{1}{2}$ to 2 grs.

CORNUS FLORIDA.

Syn.—Boxwood, Dogwood, Flowering Cornel.

Part used.—The inner bark of the Root.

N. O.—Cornaceæ.

Habitat.—United States.

Characters.—In curved pieces of various sizes, about one-eighth of an inch thick ; deprived of the furrowed, brown-grey corky layer ; outer and inner surface pale-reddish, striate ; transverse and longitudinal fracture short, whitish, with brown, yellow striæ ; astringent and bitter.

Therapeutics.—The bark possesses astringent, antiperiodic, tonic, stimulant, stomachic, and somewhat antiseptic properties. Has been found useful in *intermittent, remittent, and typhoid fevers*. It forms an excellent substitute for *Peruvian bark*, and has been proved efficacious in many cases where *cinchona* has failed. In cases where quinine cannot be tolerated it will be found very useful. It is also indicated in *debility, neuralgia, periodical dyspepsia, and the convalescent stages of many acute diseases*. In that distressing symptom of indigestion, termed *heart-burn*, it gives prompt relief. It has also gained considerable repute in the cure of *leucorrhœa, chronic diarrhœa, and dysentery*. The berries, infused in brandy, make an excellent bitter.

Preparations and Doses.—Powdered Bark, 15 to 60 grs.

Fl. Ext., 10 to 60 mins,

Solid. Ext., 2 to 8 grs.

Cornin (concentration), 2 to 5 grs.

CORYDALIS FORMOSA.

Syn.—*Turkey Corn, Turkey Pea, Stagger-weed, &c.*

Part used.—*The Root (Tuber).* *N. O.*—*Fumariaceæ.*

Habitat.—*United States.*

Therapeutics.—It is alterative, anti-syphilitic, anti-scorbutic, tonic, diuretic and resolvent. Manifests its greatest power as an anti-syphilitic, and has a tonic influence over the eliminating emunctories. It seldom disagrees with the stomach and may be employed as a tonic in irritable conditions of that organ. *It is especially indicated in scrofula, syphilis, cutaneous affections, urinary diseases and debility.*

Preparations and Doses.—Powdered Root (Tuber), 10 to 40 grs.

Fl. Ext., 10 to 40 mins.

Corydalin (concentration), 1 to 5 grs.

COTO BARK.

PALICURIA DENSIFLORA, MART.

Syn.—*Paracoto.*

Part used —*The Bark.*

N. O.—*Rubiaceæ.*

Habitat.—*Bolivia, South America.*

Characters, Chemical Composition, &c.—The powdered bark when placed on the tongue, has a sharp, aromatic taste, which soon increases in intensity, and becomes very disagreeable. It increases the flow of saliva, and its effect is felt for sometime after it has been from the mouth. It contains an active principle, *cotoin*, a pale-yellow amorphous powder, slightly soluble in water, soluble in alcohol, ether, chloroform, and alkaline solutions; it also contains some resinous constituent and an essential oil, in which the peculiar specific action of the remedy is not believed to reside.

Physiological actions.—The powdered bark increases the flow of saliva, generally produces a burning sensation in the stomach, and very generally eructations and vomiting, making this form of exhibition undesirable. Cotoine, the active principle, dilates the arteries, causes blood to flow more readily into the veins, and preserves the vitality of the intestines. Also dilates the vessels of the kidneys and causes blood to flow more easily through them. *Opium and chloral* also

dilate the intestinal vessels but their action is a paralysing one; while that of cotoine is not. According to the investigations of Jobst, cotoin must be classed to the so-called indifferent principles; and it is not only "indifferent chemically, but even physiologically; for on administering it to animals, not the slightest change of any physiological functions could be observed, even in doses of one gramme. This absence of toxic effects is no doubt a great advantage, in comparison with those remedies upon which we mostly rely in such diseases.

Therapeutical actions.—(1.) The extraordinary powers ascribed to this new remedy, *in arresting and curing intestinal catarrh, dysentery, and diarrhœa, in their various modifications*, have received renewed confirmation through the experiments made with it by Dr. Burkart and Rieker in the Ludwig's Hospital at Stuttgart. The remedy was employed by them in the shape of powder, as tincture, and in the form of the active principle, *cotoin*. Prof. Gietl, of the General Hospital, Munich, has also found it to be *a most valuable remedy in different forms of diarrhœa*. The forms of diarrhœa in which it has been found useful are those occurring *in ricketty children, in typhoid fever, in phthisis and in the insane, in chronic intestinal catarrhs, in pellagra; also in diarrhœa from relaxation of tissues, uncomplicated with inflammatory disturbance and in the diarrhœa of teething children*. Coto bark produced speedy improvement, in some old standing cases of diarrhœa, in few severe cases of *cholera morbus*, and in those cases which were not benefited by opium, tannin, or lead acetate.

(2.) Coto bark is *useless in the advanced cases of general paralysis, in diarrhœa of the drunkards, and in diarrhœa depending upon obstruction of the portal circulation, as cirrhotic liver*.

(3.) It has also been found *useful in the night-sweats of phthisis just as in diarrhœa*; 10 mins. of the fluid extract of coto were given every night to 22 patients having night-sweats of phthisis, in which 16 cases had arrest of night-sweats long continued, in 4 arrest was temporary, and in two there was no effect. Some have found it useful in gout and rheumatism, colic and neuralgic toothache.

(4.) The employment of the active principle, *cotoin*, is preferable to coto-bark, because only very small doses of cotoin are necessary to

produce the desired effect, and besides no secondary disturbances of any kind, nor any disagreeable sensations are produced by it. It checks salivation and night-sweats. Hypodermically, 15 mins. of a 1 in 4 solution in Acetic Ether, injected every quarter of an hour to every hour, has a specific action on the bowels in cholera.

(5.) *Paracotoin* appears to be a mild form of cotoin, and is not very much used. The therapeutic properties ascribed to the two drugs are similar, but their physical properties are strikingly different.

(6.) *Contraindications.*—*It is prohibited in hyperæmic conditions of the intestines and the tendency to hemorrhage from it.*

Preparations and Doses.—Powdered Bark, 1 to 10 grs.

Fl. Ext., 2 to 8 mins.

Tr. (1 to 10 Rect. Sp.), 10 to 30 mins.

Cotoin, $\frac{1}{2}$ to 2 grs.

Paracotoin, $1\frac{1}{2}$ to 3 grs.

CREASOTE.

Practical Uses.—(1.) *Antipyretic* : Dr. Scheteles tells us that a very marked diminution of temperature occurs when from 1·0 to 1·5 grs. of 20 per cent. to 30 per cent. solution of creasote in olive oil is subcutaneously injected. The taste of creasote is perceptible in the mouth some 15 or 20 minutes after the operation has been performed. It is found that 5 mins. of a 1 per cent. emulsion of microbene sufficed to reduce the temperature 2·850° F. This measure is worth pursuing, a definite method of applying remedies of the febrifuge order, hypodermically, and, of course, in much smaller quantities, than when given by the mouth, might lead to useful results.

(2.) *Pulmonary Affections.*—*Consumptives* and sufferers from *chronic pulmonary catarrhs* improve greatly under its continued use in small doses gradually increased and given after food. It has also marked antiasthmatic action, but it is not used as such. *One minim of creasote to one teaspoonful of best cod liver oil acts very beneficially in consumption.* From the clinics of several continental (Europe) physicians, the effect of creasote as such, and so combined, is asserted to be *certain in cases of consumption.*

Dr. William Perry Watson, describes its use in fifty cases of air passages as follows :—

Of these unselected cases eight were patients in the *last stage of consumption* ; and while improvement was noted for a few days after the creasote treatment was used, yet it had no permanent effect. Of the sixteen cases with *simply consolidation*, the improvement was so marked in all cases but two (one complicated with chronic Bright's disease, and one with consolidation at both apices), that they were discharged from the hospital. Of the six cases of *chronic bronchitis*, some with *emphysema*, others with *pleural thickening*, all were markedly improved by the treatment. Of the five cases of *acute bronchitis*, all were rapidly cured. The case of *acute pleuritis* with effusion, was quickly cured. The cases of *laryngeal phthisis* were improved. The case of *acute laryngitis* was cured by the inhalations alone. The case of *nasal catarrh*, as a complication, were quickly cured.

The conclusions he draws from a study of his cases are, that while creasote will not cure all cases of consumption, yet it will benefit nearly all; that in cases with simple consolidation before the "breaking-down" process begins, it seems to arrest the diseased process, and further investigations will be required to ascertain its permanent utility, although similar cases observed for a long time by Robinson and Flint would convince us that improvement was lasting.

In acute and chronic diseases of the bronchi, its use was very marked, cases of the former being quickly cured, while those of the latter were improved sufficiently for them to leave the hospital in a short time. Another very important fact noticed in these experiments was that the more constant the inhaler was worn, and the internal mixture taken, the more marked was the improvement ; so that I am satisfied that to obtain the full benefit of this treatment, the system should be saturated with the creasote as rapidly as possible ; and while I should not expect any miraculous cures, yet I believe it is, combined with good hygienic and dietetic surroundings, the most promising treatment of consumption in the labouring classes we yet possess.

(3.) *Obstinate Salivation*.—One drachm of creasote to 15 ounces of water, used as a gargle, is very effective for checking obstinate salivation.

(4.) *Erysipelas*.—Keeping the erysipelatous parts constantly wet with a solution of 6 to 20 mins. of creasote to one ounce of water, or a poultice, prepared by stirring ground elm into the same solution, so as to form a paste, applied over the part, *has been found successful in some hundreds of cases of erysipelas with only one fatal result.*

(5.) Creasote either in lotion or ointment is useful for *chronic skin eruptions, as, chronic eczema and psoriasis, ringworm, scabies, &c.*

(6.) Lastly, creasote internally is indicated for nausea and vomiting in hysteria, sea sickness, cholera, cholera infantum, and externally for toothache depending on caries of the teeth.

CREOLIN.

Characters.—One of the latest antiseptics, obtained from the English coal tar. Is a dark brown syrupy liquid, appearing and smelling much like coal tar, and forming a milky emulsion with water. Upto 3 per cent. the solution is very pleasant to feel on the skin, and a 5 per cent. one smarts a little.

Properties and Surgical Uses.—Its great antiseptic value, in which it is claimed only second to bichloride of mercury, and very superior to carbolic acid, has been tested experimentally. According to these experiments, creolin in 5 per cent. solution killed anthrax spores when acting for five minutes. Corrosive sublimate in 1 per cent. solution produced the same effect, while carbolic acid in 5 per cent. solution only did this in the first experiment—that is, once out of nine times. From these facts it will be seen that creolin is a good antiseptic, certainly superior to carbolic acid in its action on sporeless bacteria, and probably superior also when acting on spores. (J. W. Washbourn, M.D.).

(1.) *Ulcers and Wounds* :—Irrigation of ulcers with a 2 per cent. solution is pleasant to the patient ; producing liveliest granulations and healing where all other substances fail. $\frac{1}{2}$ to 2 per cent. solution is useful for irrigating the wounds ; or a dusting powder in the proportion of 10 parts of creolin to 100 parts of finely powdered boric acid, gives the same beneficial results, and forms an *excellent substitute for iodoform*. Creolin makes the surface with which it comes into contact, soft and slippery and has a very considerable *hæmostatic powers*.

(2.) *Cystitis*.—Dr. Jefsner used it as an injection in cystitis, in which the urine was offensive, brownish, and thick, and the patient, a middle-aged woman, had to keep her bed owing to the constancy of the pain. Washing the bladder with a half per cent. solution of creolin, caused marked improvement in 24 hours.

(3.) *Utero-Vaginal Douche*.—For vaginal douche a quart of a 2 per cent. solution is quite sufficient. For a combined vaginal and intra-uterine injections 3 pints of a 2 per cent. solution are sufficient. The return from the uterine passage should be carefully watched, and should be squeezed out of the uterine cavity during and after injection and removed from the vagina by turning the patient on the side. It ought first to be mixed with cold water and then hot water added until the desired degree of temperature is reached.

(4.) *Antiseptic Surgery*.—Prof. Von Esmarch and Prof. Caldwell Smith, employ the remedy almost exclusively in their clinics and private practice and consider it as an *ideal deodorant and disinfectant*.

(5.) *Non-poisonous*.—It has been given internally in doses of 7 to 15 mins. upto 40 mins. for a single dose without any injurious effects. A man took nearly nine ounces of Creolin, with suicidal intent. He soon became unconscious, and in this condition was admitted into Hospital. . . . He was discharged cured in the third week after admission. . . . The case cited is in fact a most powerful testimony of the innocuousness of Creolin, especially as compared with Carbolic Acid. For if this enormous quantity, nearly half a pint, taken into the stomach did not kill the patient, external applications of small quantities would probably have no appreciable physiological effects.

CYPRIPEDIUM.

CYPRIPEDIUM PUBESCENS Willdenow, and CYPRIPEDIUM PARVIFLORUM Salisbury.

Syn.—*Wild Ladies' Slipper, Yellow Umbel, Nerve Root, American Valerian.*

Parts used.—*The Rhizome and Rootlets.*

N. O.—*Orchidaceæ.*

Habitat.—*United States.*

Characters.—Horizontal, bent, four inches or less long ; about one-eighth of an inch thick ; on the upper side beset with numerous, circular, cup-shaped scars ; closely covered below with simple, wiry rootlets varying from 4 to 20 inches in length ; brittle, dark or orange brown ; fracture short, white ; odour faint but heavy ; taste sweetish, bitter and somewhat pungent.

Physiological actions.—It has a principal effect on the gray nerve tissue. Quiets the system under strong excitement, without producing the stupefying effect of opium or other narcotics. It seems to possess peculiar power over the nervous system, both to allay excitement and promote sleep, without slackening the arterial circulation, or diminishing the action of the heart and arteries.

Therapeutical actions.—It has antispasmodic, nervine, tonic, diaphoretic, narcotic and stimulant properties. It is a substitute in all cases for valerian. It is highly beneficial in *epilepsy, chorea, hysteria, neuralgia, nervous headache, nervous irritability and reflex nervous irritation, and low fevers*. It quiets the system without producing the stupefying effect of opium or other narcotics ; there are many cases of idiosyncrasy, where opium does not act kindly ; in these cases, and as a general nervine, cypripedin is very beneficially used. In those cases of hysteria, chorea, nervous headache, neuralgia, hypochondriasis, &c., which are aggravated by opium, this article is used with very happy results. Under its influence, the patient wakes up without that sense of fright or alarm, or heaviness, which is accompanied by the use of opium ; but with the body refreshed, and the mind calm, as when awaking after a pleasant dream. It is also indicated in *tremors, neuralgia, tic douloureux, hypochondriasis, and all nervous affections*. There is no danger of its producing constipation, and its tonic property renders it very serviceable in diseases of debility.

Preparations and doses.—Powdered Root, 15 to 30 grs.

Fl. Ext., 30 to 60 mins.

Solid Ext., 3 to 10 grs.

Cypripedin (concentration), $\frac{1}{2}$ to 3 grs.

DAMIANA.

TURNERA APHRODISIACA.

Parts employed.—*The Leaves and Tops.**N. O.*—*Turneraceæ.**Habitat.*—*California and Mexico.*

Characters.—Damiana is a small mint like plant, bearing a yellowish-white, fragrant flower, and growing near the western coast of Mexico. The leaves are small, serrate, about one-fourth to one-third of an inch long, reddish-brown in colour, with a faint aromatic and slightly bitter taste.

History and Early Uses.—It had long enjoyed a local reputation as a stimulant tonic of the sexual apparatus among the natives of its habitat, before it attracted the attention of the profession of United States, and subsequently, of Europe. The midwives and women of loose morals, of western Mexico, also attribute emmenagogue properties to it. A proprietary medicine of which damiana is the base, is very extensively employed by them and the literature accompanying the nostrum extols its efficacy for the various purposes indicated, in terms which seem well nigh extravagant (Parke, Davis.).

Physiological actions.—It is a gentle and efficient stimulant of the cerebellum and medulla oblongata, extending its stimulant and tonic effect to the renal and genital organs.

Therapeutical actions.—It has tonic, aphrodisiac, nervine, laxative, cholagogue and diuretic properties.

(1.) *Genito-Urinary Organs.*—*It has a specific action in seminal emissions, loss of seminal power, prostatitis, prostaticorrhœa, and enlargement of the prostate gland.* Has been largely employed as an aphrodisiac, and is generally regarded as an agent having a special tonic and stimulant influence over the genito-urinary organs. Numerous cases are reported in corroboration of this property, *especially in exhaustion from excesses, and in cases weakened by tonicity, i. e. atony.* 5 cases of sexual debility were successfully treated by a teaspoonful, administered twice a day, of a mixture of Fl. Ext. Damianæ, oz. i. and Tr. Staphisagriæ, drs. 2, Aquæ, ozs. 4. However in these cases of impotence, a combination of Damiana, Coca, Phosphorus and Nux. Vom., has

been commonly employed with benefit by American and European practitioners.

(2.) *Uterine Apparatus*.—It has a tonic action on the uterus and is often serviceable in *dysmenorrhœa*.

(3.) *Nervine Tonic and Stimulant*.—It is a tonic of great value in *nervous debility* and is useful also in *chronic forms of hemiplegia and paraplegia*.

(4.) *Cardiac and General Debility*.—It is a heart tonic to some extent and in this way like *cactus (cereus grandiflorus)* influences the renal organs. Is useful in cases of general debility, in conjunction with other tonics.

Preparations and Doses.—Leaves, $\frac{1}{2}$ to 2 drs.

Fl. Ext., $\frac{1}{2}$ to 2 Fl. drs.

Solid. Ext., 5 to 15 grs.

DIGITALIS.

Physiological actions.—The action of digitalis is divided into three stages. The first stage is that of stimulation of the vagi; the second is sudden depression of the vaso-motor apparatus of the renal arteries; the third is depression of the vagus, exhaustion of the ganglia, weakening of the heart, and, as Dr. Mitchell Bruce wisely puts it, the circulation begins to fail. With *Cactus Grandiflorus* the action seems to be the very opposite. As it acts on the *unstriated* muscular fibre, it stimulates the uterus to contraction. It lessens reflex activity. It may lower temperature by improving circulation. Has toxical impression upon the cerebro-spinal system. Acts specially upon the reproductive organs and exercises a powerful influence over the absorbent system. It has the reputation of possessing cumulative properties, but this may be avoided by duly neutralizing the acidity of the system previous to its exhibition, and prohibiting its administration for a time only, after it has been administered for some time.

Therapeutical actions.—It has narcotic, arterial sedative, alterative, resolvent, diuretic and anti-aphrodisiac properties. Indications for the employment of digitalis are:—Dropsies, pneumonia—both acute and chronic, hamoptysis, neuralgia, delirium tremens, epilepsy, disease of the

heart—both functional and organic, croup, glandular affections, fever, and inflammations generally, scrofulous affections, chronic exanthema, local cedema, diseases of the bones and joints, spermatorrhœa from excessive venery, nymphomania, incontinence of urine, albuminuria and hyperæsthesia. The use of digitalis in large doses as a cardiac stimulant in syncope, or in sudden collapse from hemorrhage or other causes is in its infancy. It has been given hypodermically with most astonishing effects, in a number of cases by Dr. Wood.

DIGITALINE.

Characters.—In porous, mammilated masses, or small scales; white, inodorous, and intensely bitter; readily soluble in spirit but almost insoluble in water and ether; dissolves in acids, but does not form with them neutral compounds; its solution in hydrochloric acid is of a faint yellow color, but rapidly becomes green. It powerfully irritates the nostrils, and is an active poison.

Therapeutics.—For *menorrhagia* digitalin may be prescribed for some days previously to the occurrence of the menstrual molimen. It is also useful in *spermatorrhœa*. Cases of *exophthalmic goitre* in young subjects, purely functional in character, have been cured by digitalin, and the cardiac irregularities and the dilatation of the cervical vessels ameliorated in even incurable cases.

Dose.—Digitalin 1/100 gr. hypodermically; 1/60 to 1/30 gr. internally.

DITA BARK; DITAINE.

ALSTONIA SCHOLARIS.

Syn.—*Echites Scholaris*; *Ecorce de dita* (Fr.); *Ditarinde* (Ger); *Satavin* (Mah.); *Shhatiana* (Hind.); *Sátavana* (Bom.); *Sapta párná*, *Vishal-tvaka* (Sans.).

Part employed.—The Bark. N. O.—Apocynaceæ.

Habitat.—East Indies, Western Africa; grows wild abundantly in the central provinces of the island of Luzon.

Characters.—Irregular flat pieces, 2 to 4 inches long, 1 to 2 inches broad, and about $\frac{1}{4}$ to $\frac{1}{2}$ an inch thick; soft, light and very fragile. Externally dark brown in colour, rough, longitudinally fissured. Internally, soft, spongy and pale brown in color. It easily breaks with a short coarse fracture, yielding a yellow powder. Odour somewhat disagreeable and acrid; taste bitter.

Chemical Composition.—The bark contains an uncrystallizable principle, called "*ditain or ditamine*," having a bitter taste and alkaline character, and is supposed to be identical with sulphate of quinine. It is contained in the bark to the extent of about 5 per cent.; other constituents are sulphate of lime and extractive matter.

Ditain, is easily obtained by boiling one part of powdered bark with thirty-two parts of water, and allowing the mixture to remain in the sun for drying.

History and Early Uses.—It is called in Sanskrit, *Visdlatvak* on account of the thickness and sponginess of the bark. The tree has obtained the trivial name of *Scholaris* from the fact of its planks covered with a layer of sand being used as school-boards on which children traced their letters, as in the Lancastrian system. The natives have a superstitious fear of it, and say, it assembles all the trees of the forest once a year to pay homage. (Graham). Mr. Nimmo in 1839 called attention to it as a powerful tonic, and suggested its use as an antiperiodic. It is official in the Indian Pharmacopœa, and is described as an astringent tonic, anthelmintic, and antiperiodic. Lastly, Gruppe, a pharmacein of Manilla, has obtained from the bark an uncrystallizable principle, which he has named *Ditain or Ditamine*.

Therapeutical properties.—The bark possesses an astringent tonic, antiperiodic and anthelmintic properties. It has long since been in use in India as an efficient substitute for cinchona and quinine in the treatment of intermittent and remittent fevers and those native practitioners who have employed it in their practice as such, have testified as to its efficacy, as a valuable antiperiodic and tonic. It has proved valuable in chronic diarrhœa and in the advanced stages of dysentery.

In the report on the Centennial Exhibition presented to the American Pharmaceutical Association, the following account of this drug is given:—"Echites scholaris (*Alstonia scholaris*, Brown,) grows wild abundantly in the central provinces of the island of Luzon, where it has long been known and esteemed by the natives under the name of 'Dita,' as a most efficient tonic and febrifuge. The people using it from time immemorial in decoction against malignant, intermittent, and remittent fevers with the happiest result, the attention of our leading physicians was excited, and the active principle ditain has now become a staple article, and *ranks equal* in therapeutical efficiency with the best imported sulphate of quinine. Numberless instances of private and hospital practice, carried out by our best physicians, have demonstrated this fact. Equal doses of ditain and of *standard quinine sulphate have had the same medicinal effects*; besides leaving none of the disagreeable secondary symptoms, such as deafness, sleeplessness, and feverish excitement, which are the usual concomitants of large quinine doses, ditain attains its effects swiftly, surely, and infallibly. We use ditain generally in quantities of half a drachm daily for infants, and double the dose for adults, due allowance being made, of course, for age, sex, temperament, &c. Given internally our standard (Manilla) formula is:—

FOR INFANTS.

R Ditain dr. ss; Aq. Flor. Aur. oz. v; Syr. Citri oz. i; Sig.—
One spoonful every hour.

FOR ADULTS.

The same mixture with I drachm of ditain. Our medical practitioners use ditain in the form of injections in the rectum. For this purpose experience has suggested as follows:—

FOR INFANTS.

R Ditain dr. i; Water 1 lb. Troy. Dissolve.—For three injections, one every three hours.

FOR ADULTS.

The same preparation, only instead of one use two drachms of ditain; same intervals. We derive very beneficial effects from its

use; too, under the form of poultices. Powdered dita bark, cornflour, each half a pound; hot water sufficient to make a paste. Spread on linen and apply under the armpits, and on the wrists and ankles, taking care to renew when nearly dry, and provided the desired effects should not have been obtained. The results arrived at by ditain in our Manilla hospitals and private practise are simply marvellous. In our military hospital and penitentiary practise, ditain has perfectly superseded quinine, and it is now being employed with most satisfactory results in the Island of Mindanao, where malignant fevers are prevalent. (Dr. Dymock.)

Preparations and Doses.—Powdered Bark, 20 to 60 grs. or more.

Fl. Ext., 2 to 10 mins.

Ditain, 10 to 30 grs.

DROSERA ROTUNDIFOLIA.

Syn.—*Sundew*; *Rorella*, *Rossolis* (Fr.); *Sonnenthau* (Ger.).

Part employed.—*The Whole Plant.* N. O.—*Droseraceæ.*

Habitat.—*Northern Europe and North America.*

Characters.—Herbaceous plant growing in boggy or marshy places; glandular; with alternate, extipulate leaves, and a circinate veneration. Peduncles, when young, circinate. It is chiefly interesting from the peculiar irritability of the glands or hairs on its leaves; these beautiful stalked glands, close more or less when insects alight upon them. Flowers regular and symmetrical, hypogynous, with a quinary arrangement of their parts, which are also persistent and imbricate.

Therapeutics.—It exerts a peculiar action upon the respiratory apparatus and has been found essentially useful in *pertussis*, *asthma*, *incipient phthisis*, *chronic bronchitis with dry spasmodic cough*, *nervous or sympathetic cough*, whether from pulmonary, cardiac or gastric disease. It is useful in dyspepsia, especially for the relief of flatulence.

Preparations and Doses.—Dried Herb, 5 to 10 grs.

Fl. Ext., 5 to 20 mins.

Solid Ext., $\frac{1}{4}$ to $\frac{1}{2}$ gr.

Tr. (1 to 8 Pf. Sp.), 5 to 10 mins.

DUBOISIA MYOPOROIDES; DUBOISINE.

Syn.—*Pituri*.

Part employed.—*The Leaves*.

N. O.—*Salpiglossidæ, Solanaceæ*.

Habitat.—*N. S. Wales and Queensland*.

DUBOISINE.

Characters—Duboisine, the alkaloid of *Duboisia Myoporoides*, closely resembles *atropia* and is identical with *hyoscyamine* and *daturine*. It is a volatile alkaloid, naturalizing acids, of a yellow colour, soluble in alcohol, ether, chloroform, water and benzol.

Physiological actions.—In small doses it produces marked congestion of the capillaries like belladonna. In large doses it produces awkwardness in locomotion, and if pushed still further, produces muscular paresis. It antagonizes morphia and opium as readily as does atropia and belladonna; while it is antagonized by caustic alkalies, eserine, muscarine, pilocarpine and hence should not be given with any of these drugs. Like atropia it has the same physiological effects upon the mouth, throat and cerebrum. Its action on the vaso-motor centre is same as that of atropine. Duboisine is so powerful that a few drops, of a solution of 4 grs. to an ounce, instilled into the eye often produces great giddiness, weakness and a drunken feel.

Therapeutical actions.—(1.) As duboisia produces marked congestion of the capillaries, it is used like belladonna in overcoming congestion in all diseases. Indications for its employment are dulness, stupidity, headache and delirium in typhoid fever.

(2.) In cases of teething children if they are drowsy and sleep with their eyes half open, with dilated pupil, it is given with confidence in teaspoonful doses of a mixture of 5 mins. of fl. ext. to 2 ozs. of water.

(3.) In exophthalmic goitre $1/120$ gr. of duboisine administered thrice a day, gives great relief.

(4.) It has been found useful in relieving night-sweats in phthisis and other diseases, and vesical tenesmus.

(5.) It is an useful calmative in *maniacal delirium*.

(6.) In ophthalmic practice, it is used as a *mydriatic*, more rapid in its effects than atropine, and with less irritation, and is consequently better suited for inflammatory affections and for *paralysing accommodation*. The strength employed is 1 to 2 grs. to an ounce of water. An ointment of 1 gr. of sulphate of duboisine to 500 grs. of vaseline is beneficially employed in *inflammation of the cornea*.

Preparations and Doses.—Fl. Ext., 5 to 10 mins.

Solid Ext., $\frac{1}{4}$ to $\frac{1}{2}$ gr.

Duboisine Sulphate, $\frac{1}{120}$ to $\frac{1}{30}$ gr.

Guttæ. Duboisinæ. Sulph.—1 gr. to 1 oz.

EMBELIA RIBES.

Syn.—*Vāvadinga* (Bom.); *Baberanga* (Hind.); *Vāevalanga* (Guj.); *Biranj-i-Kabali* (Arab. and Pers.).

Part used.—The Berries.

N. O.—*Myrsinaceæ*.

Habitat.—India. (Common in the neighbourhood of Bombay.)

Characters.—The berries are about the size and shape of pimento seeds, and smaller than the black pepper and cubeb berries; of a dull red colour, and growing in large bunches. They are rather pleasant, faintly aromatic and slightly astringent in taste. In old berries the color is dark red. At the base of each berry is a five-tooth calyx, with a small adherant stalk. The outer shell is striated from the base to the apex, where there is a small beak; its colour is reddish brown marked with dark spots and within the shell is the seed covered with a delicate membrane; the seed is horny, reddish and oily.

Therapeutical Properties.—The seeds have long been used in India for strengthening the body and preventing the effects of age. They are considered carminative, stomachic, and anthelmintic and are useful in dyspepsia and flatulence in children, and as an alterative in skin diseases.

It is in high repute as an anthelmintic among the natives, especially in cases of *tape worm*. They are considered in the Deccan as a specific for rheumatism. Its most recent use in the European practice is in the treatment of *tapeworm*; as it has no purgative action, it should be followed by a purgative; under its influence the worm is expelled dead. The seeds are largely imported into Germany, and form the chief ingredient in several patent medicines for tape worm.

Dr. G. H. Harris, London, writes as follows regarding the use of *E. Ribes*, as a *tæniifuge* :—

“I have used this drug for the past four or five years in cases of tape worm amongst Europeans and natives with good results, and it is a favorite Indian remedy in this disease. I have usually given from one to four drachms (or even more) of the powdered seeds with milk or with curds early in the morning, fasting, following it up some hours later with a purgative dose of castor oil. This latter I have found nearly invariably necessary, as the seeds themselves are not purgative. I can vouch for the efficacy of this remedy when given in full doses, repeated every morning if necessary; and I have never seen the slightest ill effects follow its use.”

Mode of Administration, Preparations and Doses.—

Powdered Seeds, 1 to 4 drs., for an adult; for children proportionately.

Fl. Ext., 1 to 4 Fl. drs.

When administered for *tænia*, it should be given to the patient in the morning, fasting, and followed some few hours afterwards with a purgative, preferably castor oil.

ERGOTA.

The sclerotium of *claviceps purpurea* Tulasne (*N. O.*—*Fungi*), replacing the grain of *Secale cereale* Linné (*N. O.*—*Graminaceæ*).

Syn.—*Spurred rye*, *Smut rye*; *Clavus secalinus*, *Ble Cornu* (*Fr.*); *Mutterkorn* (*Ger.*).

Characters.—Somewhat fusiform, obtusely triangular, usually curved, from one-third of an inch to an inch and a half in length, and

one-eighth of an inch thick ; three-furrowed, obtuse at both ends, purplish black, internally whitish with some purplish striae, breaking with a short fracture. Odour peculiar and disagreeable, more especially if the powder be triturated with solution of potash ; taste mawkish and rancid.

Chemical Composition.—The constituents of ergot are very numerous. It seems probable, indeed, that several of its constituents are of importance, affecting different portions of the organism, and in different ways. These are two bases and two acids, viz., *ergotinine* and *Cornutine*, *Sclerotinic acid* (containing *ergotinic acid*) and *sphacelinic acid* ; of these sclerotic acid produces contraction of minute blood vessels and is thus hæmostatic, and cornutine and sphacelinic acid produce uterine contraction. (Kobert).

Physiological actions.—It produces *anæmia of the nerve centres* due to contraction. It first stimulates and then paralyzes the peripheral pneumogastric, or slows and then quickens the pulse. *Raises arterial tension* by producing vaso-motor spasm (centric). A toxic dose lowers arterial pressure by depressing heart and vaso-motor centres, and is a poison to cardiac muscle. *It increases peristalsis*. As it acts on *un-striped* muscular fibres it contracts bladder. It causes diuresis by raising arterial tension in *Malpighian tufts*. It prolongs the length and force of pains in a parturient uterus, its action here being probably peripheral.

Therapeutical actions.—As ergot is too common a drug, and as its therapeutic uses are too familiar to the medical profession to require enumeration or elucidation in this connection, I simply describe, first, some of its practical and clinical uses, and secondly, some of its new and uncommon uses :—

(1.) *Diseases due to cerebral Hyperæmia.*—(a.) Ergot is indicated in *mental diseases* depending on hyperæmia of the brain. Has a decided curative powers in milder forms of *acute mania*. *It controls cerebral plethora whether active or passive*. Practically it does control mental excitement when associated with congestion whether the subject be anæmic, exhausted, or otherwise. It is also useful in *acute exacerbations of chronic mania*. (b.) As it has no direct hypnotic action, its action is assisted by *Chloral Hydrate* especially in those

cases where delirium has lasted for many days or nights without ceasing; and the patient must either sleep or die as is often the case. This Chloral Hydrate itself tends to produce in full doses, a secondary passive fulness of the head, but this effect is obviated by ergot. (c.) Ergot may also be combined with *Bromide of Potassium* in cases of cerebral plethora, congestions, &c. (d.) Ergot has been used in several cases of *mania à potu*, with the effect of speedily controlling the delirium, depending on its power of contracting the cerebral blood vessels. (Dr. Arnoldson). (e.) It is useful in *migraine depending on congestion of the brain or meninges*.

(2.) *Hemorrhages and Diseases due to hypertrophied and relaxed conditions of the vessels and fibres*:—(a.) It is beneficial in *menorrhagia with a lax and spongy uterus*, chronic metritis, uterine fibroids and polypi. (b.) Also useful in epistaxis, hæmoptysis, hæmatemesis or any other kind of hemorrhage, *especially hypodermically*. (c.) *In the incontinence of urine* caused by prolapsus of the sphincter or bladder as frequently occurring in old people. (d.) *In the prolapsus of the rectum* either partial or complete. (d.) It has been given with success in that troublesome class of cases following the *enlargement of the prostate gland*; as it causes diminution of its substance by its peculiar action on involuntary muscular fibre. (e.) It has been lately prescribed with marked benefit in cases of *diabetes insipidus*, depending upon the disorder of the vasomotor system, for diminishing the amount of urine. (b.) Ergot is useful in obstinate constipation, spermatorrhœa, some forms of typhoid fever, dysentery and bleeding piles.

(3.) Whooping cough.—In this disease it has been given with wonderful success, frequently cutting short an attack, and checking the violent paroxysms when all other remedies have failed. Speaking of Ergot as a remedy for Pertussis, Dr. John Dewar places it at the head of the list. "I am aware," he says, "that in this disease a vast number of remedies are useful, but after a pretty extensive trial, both in hospital and private practice, I am inclined to regard Ergot as the best and safest. Ergot seldom fails to cure whooping cough in from one to three weeks; the cases that are longer in getting better are those complicated with bronchitis, or with troublesome bronchial catarrh. I give from four to fifteen minims of the liquid extract every three or four

hours to children of three months and upwards. The benefit of the *secale* is at once apparent, the fits of coughing occur less frequently, and are not so severe when they do occur. I do not here claim for Ergot any specific power, but rather a physiological one. It may have a specific action, but of that there is as yet no proof. However, of its power to cut short the disease there can be no doubt, whatever be the theory of its actions."

(4.) The following are few clinical reports which indicate new and uncommon uses of ergot :—

Hiccough :—Very few, however, may have heard that ergot will cure hiccough. Last autumn there was in this district an extensive epidemic of intermittent fever. The police hospital was full of fever cases. One day a policeman was admitted with an obstinate hiccough. He said he had had it for several days, and had no other ailment. I tried many remedies—sedatives, narcotics, antispasmodics, and counter-irritants. I gave him a large anti-spasmodic enema, and then a strong purgative. The hiccough went on. I next tried chloroform and subcutaneous injections. As long as their effects lasted, freedom from the distressing spasm was experienced. Then it came on again with unabated force. The patient began rejecting his food and everything he took by the mouth. The case was taking a serious aspect, and I thought death would ensue. As a last resource, I ordered the liquid extract of ergot in drachm doses. I did this simply because I knew it had a decided action on muscular fibre. The first dose moderated the spasm, the second did further good, and the third or fourth stopped it altogether. The patient had some rest, but later on the hiccough returned. Three or four doses stopped it again ; it never returned, and the man was well. Recently another case was admitted with a similar obstinate hiccough. My hospital assistant gave the liquid extract of ergot at once ; after some doses the cough was stopped and did not return. I have often given this extract in drachm doses frequently repeated, and have never observed any disadvantage from it. (E. Bbonavia, M.D., Brigade Surgeon, I.M.D.).

(5.) *Pneumonia*.—Dr. N. S. Davis contributes a clinical report of two cases of pneumonia, in which certain alarming features of the disease were promptly relieved by the exhibition of ergot. He remarks

that there is no fixed routine treatment which is adapted to all cases of pneumonia, simply because the morbid processes which constitute the different stages of pneumoniac inflammation are liable to be much modified by the previous condition of the patient, and the coincident meteorological and sanitary influences that surround him. The benefit to be derived from ergot is when there is a demand for more steadiness and tone to the action of the heart. Given in connection with *digitalis* under those circumstances it is, perhaps, *the most reliable agent we possess for resisting the over-engorgement of the pulmonary vessels*, during the first stage of the disease, in which the condition of the heart referred to, is found to exist.

(6.) *Hydrocele*.—In bringing this matter before the profession, I feel bound to admit that, but for a curious accidental circumstance, the agent might never have presented itself to my notice. In the year 1875 I proposed to operate on a patient, aged 65, for the radical cure of a hydrocele of the tunica vaginalis. The disease had existed for about ten years, and had been repeatedly emptied by other surgeons. At this time I removed, by the trocar and cannula, about 12 ounces of serum, and, by accident, took from my pocket a bottle containing about two drachms of liquid ergotæ in the place of the same quantity of tincture of iodine, which it was my intention to throw into the cavity. On my return home I discovered the mistake, and watched the patient for some hours at intervals. No inflammatory state occurred, and there was entire absence of pain, so that I allowed my patient to return to his ordinary occupation the next morning. To the present time there has been no return of the abnormal secretion. I have since, on two occasions, used the same plan with perfect success, and I attribute the cure to a specific action, exerted by ergot, which re-establishes the balance between secretion and absorption. (J. E. W. Walker, M.R.C.S.E.)

(7.) *Conjunctivitis*.—Case 1.—Miss C. W., age about 20, domestic, came to me one morning for treatment, complaining of intense distress in her left eye. An examination revealed an acute conjunctivitis of a severe character. There was great swelling of both upper and lower eyelids, and the congestion involved both the palpebral and ocular conjunctivæ, even extending over the cornea, so as to cause some

blurring of vision. Photophobia was very marked. The patient stated that the afternoon previous she noticed a pain in the ball of the eye; and a general smarting and burning about the eye. Before that there had been no trouble whatever. The next morning when I first saw the eye, I feared the disease might be specific in character, it was so severe. At least I thought I had a case that would last two or three weeks, and might go to an oculist for special treatment. I at once administered a seidlitz powder, followed by two improved cathartic pills, and put up the following for local treatment :

R liquid ergot, normal, fl. dr. 1, Aqua pura, fl. dr. ℥j.

Sig.—Evert upper lid and instill 3 or 4 drops every four hours.

I applied the remedy myself to insure its being used properly, and the results were astonishing. In less than forty-eight hours from first application there was positively no need of further treatment. Considering the severity of the onset of the attack, and the rapidity with which complete relief was obtained, the case was to me of more than usual interest.

CASE 2.—Dr. P. L. Hurt, of Boonsville, Mo., reported to me in substance as follows : “My colleague, Dr. H., had treated a case of chronic inflammation of the eye, in which the sclerotic coat was the part principally affected, for about one year without success. The patient then came to me. I knew that Dr. H. had of course used all the old well-known means, and I was desperate in my anxiety to select the proper remedy. It occurred to me that Parke, Davis & Co.’s sample normal liquid ergot which had been left me, might do the work, as the known physiological action of ergot would suggest it might have beneficial action towards diminishing congestion. I used the preparation and within two weeks the eye was well.” (Ray R. Mitchell, M.D.)

(8.) *Chronic Gonorrhoea*.—Hearing of the success of Dr. N. V. Speere, of Quincy, Ohio, in the treatment of gonorrhoea with local applications of normal liquid ergot (such as that prepared by Parke Davis & Co., of Detroit), and realizing the need of some more satisfactory remedy in the treatment of this disease, in its many stages, I resolved to see if the same good results would follow in my own practice, and therefore vowed that the next case of chronic gonor-

rhœa that came under my care should have the benefit of the experiment. In a day or two the opportunity presented itself.

CASE 1.—A young man, a salesman in one of our large manufacturing establishments, had suffered long and suffered much. He had tried all the “patents,” “Big G.’s,” etc., to be had, and had also received “rational” treatment from one of our regular physicians. All this availed him nothing. First I introduced a large sized bougie, finding no difficulty in doing so. He complained, however, of pain, as the instrument was passing. After satisfying myself that no stricture was present, I gave him a small vial of normal liquid ergot, instructing him to use for an injection one part of this to four parts of water (distilled), once daily for a week, and at the end of that time (or sooner if he chose) to report progress. Did not see him again for about ten days, at which time he called to report. He very abruptly exclaimed “what the —— was that you gave me?” I made some evasive reply, as I feared my treatment had proved disastrous in some way. Finally he said: “Well, I spent over \$35.00 on this business before I came to you, and this little vial cured me up.” He remarked that after the first application he could notice an improvement, and at the end of the fifth day he was entirely free from discharge and pain.

CASE 2.—Thos. W., single, cabinet maker had contracted gonorrhœa about three years ago. Had received rational treatment, but was not benefited. He came to me for treatment about the last of May, 1886. This was a very obstinate case, but finally yielded to treatment and was discharged cured, July 30, 1886.

CASE 9.—John H., a moulder, single, had had gonorrhœa about one year. This case was very much like case one, except that the patient was intemperate. He was kept under treatment for about four weeks, owing to the fact that he would get drunk. This retarded the cure in his case.

CASES 3, 4, 5, 6, 7, 8, 9 and 10 yielded readily to treatment, and were discharged cured within from six to nine days. Since then I have used it repeatedly and with the same good results. I have a little army here that would, if they knew upon whom to

shower their blessings, bless the man that made the experiment of using local applications of normal liquid ergot in chronic gonorrhœa.

We need not, however, confine ourselves to its use in the treatment of chronic gonorrhœa, but can also use it in the acute stage. My experience in its use in the acute stage is not sufficient to warrant me to advocate its use to the exclusion of the usual remedies. (J. HENRY CRAIG, M.D.)

Toxicology.—The symptoms of an over dose of, or poisoning by, ergot, resemble those of *sausage or spoiled meat poisoning*. The antidote is the administration every half hour of a tablespoonful of a mixture of ætheris pur. mins. 30, tr. opii mins. 10, syrupi drs. 5, aquæ dest. drs. 4. *Ergot is an antidote against an overdose of nitroglycerine, as well as for combating the cerebral effects of an overdose of quinine.*

Preparations and Doses.—Powdered Ergot, 10 to 20 grs., or
for labour, 30 to 60 grs.

Fl. Ext., 10 to 60 mins.

Solid. Ext., 1 to 5 grs.

Inf. (1 to 40), 1 to 2 fl. ozs.

Oleum, 10 to 20 or 30 mins. for labour.

Tr. (1 to 4 Pf. Sp.) 10 to 60 mins.

ERGOTIN.

It is simply a purified extract of Ergot, commonly called *Ergotin*, *Ergotine* or *Bonjean's Ergotine*.

Practical Uses.—Many of the diseases described under "Ergot" especially those included under "Paragraph No. 1 and 2" can be beneficially treated also, either by the hypodermic injections or internal administration of ergotine, instead of ergot by the mouth. However there are certain more affections in which ergotine is called for:—

(1.) *Impotence.*—The loss of the power of sexual intercourse from want of proper erections owing to the enlargement of the dorsal veins of the penis is often completely relieved by the hypodermic injections of ergotine.

(2.) *Ergotine and Quinine.*—*Ergotine and quinine both cause contraction of the uterus and spleen*, and especially where an enlarged spleen and a tender spleen is present in the intermittent fevers, one drug may be substituted for the other. A combination of ergotine and quinine in intermittent fevers is very beneficial and by being so used a considerable quantity of quinine may be saved, as half the dose of quinine, which would be required if given alone, will suffice if combined with quinine.

(3.) *Night-Sweats of Phthisis.*—Ergotine is of use in controlling the night-sweats of phthisis, possessing the certainty and permanency of atropia without its drawbacks. Dose, two grs. three to four times a day, diminished as the sweats abate.

(4.) 3 grs. of ergotine in 10 to 15 mins. of water is useful in *uterine fibroids, epistaxis, and prolapsus ani*, when hypodermically injected into the buttock, arm, and sphincter respectively.

(5.) Lastly ergotine is beneficial in *bronchocele, heat apoplexy of the tropics* and *Trichinosis*.

Dose.—1 to 5 grs.

Inj. Ergotini. Hypod. Strength.—Ergotin 100 grs., camphor water 200 fl. grs. *Dose.*—3 to 10 mins.

ERGOTININ.

Properties and Uses.—A recently discovered alkaloid, basic in character and far more powerful in its effects than ergotin. It is administered in *vaso-motor neuroses, special cephalalgicæ, hemicrania, Basedow's disease* and in cases of *paralysis of the bladder*. Subcutaneous injections of ergotinin in doses of $1/300$ to $1/60$ gr. show great advantage over the injections of extract of ergot; they are relatively painless, not causing more pain than a morphine injection, and do not occasion irritation or other bad symptoms. (Prof. Eulenberg). Dr. Murrell found that in *hæmorrhages from the lungs in consumption*, one injection usually sufficed to check bleeding for days. It may be advantageously used hypodermically in the treatment of post-partum, and various other forms of, hæmorrhages.

Dose.— $1/300$ to $1/150$ to $1/75$ gr. hypodermically.

ACID SCLEROTINIC OR SCLEROTIC.

Characters.—A weak acid principle, occurring as a brown amorphous powder, very hygroscopic, and soluble in water.

Properties and Uses.—One grain of sclerotinic acid is equal to 30 grs. of ergot in its therapeutic effects. It produces contractions of the minute blood vessels, and is thus useful as an *hæmostatic*, and in relieving congestive headaches. But it has little action on the uterus.

Dose.— $\frac{1}{2}$ to $\frac{3}{4}$ gr. hypodermically.

INJ. ACIDI. SCLEROTICI. HYPOD.—Strength 1 gr. in 6 mins.
Dose.—3 to 5 mins. Should be freshly prepared when practicable, if not, 1 per cent. of carbolic acid will prevent decomposition. This injection is preferable to ergotine, as it causes no pain at the seat of puncture.

CORNUTIN.

Properties.—An active principle of ergot, basic in character, and has the power to induce uterine contractions.

Dose.— $\frac{1}{60}$ gr.

ERYTHROPHLÆUM GUINEENSE, E. JUDICIALE.

Syn.—Casca Bark, Doom Bark, Mencona Bark, Sassy Bark, Ordeal Bark.

Part Employed.—The Bark. *N. O.*—Leguminosæ.

Habitat.—Central and Western Africa.

Characters.—The bark has an astringent, acrid bitter taste and when powdered excites violent and persistent sneezing. It contains an active principle called *Erythrophlæine*.

Physiological actions.—The most conspicuous effect of the drug is a general muscular relaxation, so that the animal poisoned with it, will remain quiescent in whatever position it is placed. It acts on the peripheral inhibitory apparatus in the heart. Its action appears to resemble that of *Digitalin* and *Picrotoxin* combined. It excites violent sneezing.

Therapeutical actions.—It is used in certain parts of Africa as an ordeal, to which persons suspected of witchcraft, secret murder, &c., are subjected as a test of their innocence. In medicinal doses, it succeeds in cases of *mitral disease* where *digitalis* fails. Its action is to strengthen and slow the heart and contract the arterioles; and increase the secretion of urine. The sign of its toxic action is the *reduction of the urine* passed, and when this symptom appears it *should be discontinued*. It does *not* seem to be a *cumulative poison*, since in two days after discontinuing it, the urine usually becomes normal in amount. Casca is useful when we want a remedy to act upon the *perepheral inhibitory apparatus in the heart* and *digitalis* is indicated in cases in which *stimulation of the cardio-inhibitory centre in the medulla* is required. Its chief use is in cardiac dropsy. The Africans employ the bark in small doses in periodical fevers, diarrhoea, dysentery and colic. In large doses it is nauseant, emetic and narcotic.

Preparations and Doses.—Powdered Bark, $\frac{1}{4}$ to 1 gr.

Fl. Ext., 5 to 15 mins.

Tr. (1 to 8 Pf. Sp.), 5 to 15 mins.

ERYTHROPHLÆINÆ HYDROCHLORAS.

Characters.—Occurs in whitish crystals, soluble in water.

Therapeutics.—It is a more powerful remedy than digitalin in *mitral disease and cardiac dropsy*, and is useful in *dilated heart*.

There is a good deal of uncertainty regarding the action of this alkaloid, which is credited by Dr. Lewin, of Berlin, with the properties of a local anæsthetic, while this assumption has been distinctly traversed by other observers, both in Germany and England. The commercial alkaloid is obtained from sassy bark (*Erythrophleum guineense*), and the most reasonable supposition probably is, that “Erythrophleine” is a mixture of at least two different principles, to one of which the great irritation it produced upon the mucous membrane, irrespective of the anæsthesia, may be ascribed. Its properties are said to resemble those of digitalin and picrotoxin conjointly when taken internally. The so-called “Haya” poison is considered by Dr. Lewin to be identical with the erythrophleine of sassy bark.

ESCHSCHOLTZIA CALIFORNICA.

CHAMISSE.

Syn.—*California Poppy.*

Part employed.—*The whole Plant.*

N. O.—*Papaveraceæ.* *Habitat.*—*California.*

Characters.—An herbaceous, glabrous, glaucescent plant; the leaves being alternate, petiolated and multifid, with linear lobes and no stipules. The flowers, which are supported on long peduncles, are terminal, regular and hermaphrodite. The receptacle takes the form of a hollow cone, whose upper border bears a calyx, and a tetramerous perigynous golden yellow corolla. The two valvate sepals are united throughout their entire length, but can be detached at the base, in the form of a funnel. The fruit is linear oblong, dry and capsular, traversed longitudinally by ten projecting ribs, and dehiscent, as far as the base, into two rigid valves, bearing the seed at the edges. These little brown seeds contain an albuminous fleshy matter enveloping the embryo.

Chemical Composition.—It contains a small amount of *morphine*, a greater amount of a base, and probably a glucoside.

Physiological actions.—Under its influence, the respiratory movements are first accelerated, then gradually become slower and slower until death ensues. In small doses it acts only on the functions of the cerebral sphere properly so called. The animals lose all power of voluntary action, remain immoveable in their places, and are quite indifferent to everything that can attract their attention. The functions of the spinal marrow and central bulb are affected only by very large doses. The motor nerves are affected first, and the sensory after a considerable time.

Therapeutical actions.—From observations made in the Cochin Hospital in the service of M. Dujardin-Beaumetz, upon several patients, it appears that the effect produced by *E. Californica* upon patients is the same as that of *morphine*, without the inconveniences of the latter drug. All the patients who took it, with the exception of the consumptives, slept well without nightmare or disturbing dreams, and in the case of nervous diseases a marked diminution

of the pain and excitement incident thereto was obtained. Several patients took it for sixteen consecutive days, and they experienced no inconvenience therefrom—no weakness of the stomach, nor constipation, and the appetite remained normal. The inconvenience attributed to morphine, such as a bad taste and dryness in the mouth on awaking, headache, nausea, vomiting, difficulty in urination, &c., have not, in any case, been observed. On the contrary the treatment is an excellent remedy for headache. A remarkable feature in the experiments was that the effect of the medicine remained for a considerable time after the administration of it ceased. In conclusion, *E. Californica* is a very precious and, above all, a *harmless soporific*. It is an *analgesic*, very useful in certain cases ; it does not present the difficulties and inconveniences attending the use of morphine, and its administration is exceedingly simple. Considering the very small quantity of morphine which the *E. Californica* contains, this plant could with advantage take the place of morphine, especially in the case of children.

Preparations and Doses.—Alcoholic Ext., 32 to 154 grs. per day.

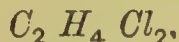
Fl. Ext. of the plant, 15 to 30 mins.

repeated as found desirable.

ESERINE.

Vide Physostigmine.

ETHIDINE BICHLORIDE.



Syn.—*Ethidene*.

Characters.—A liquid scarcely to be distinguished from chloroform in appearance or odour, with a boiling point of 48° C. It is isomeric with bichloride of ethene, a dangerous substance for inhalation.

Physiological actions.—Experiments upon animals show a diminution of arterial pressure, such as occurs when chloroform is used ; but unlike it, it does not advance to complete extinction, nor are there such wide variations in effects at different times in the same

animal as in the case of chloroform. The difficulties of manufacturing and obtaining it pure have interfered with extended experiments with it clinically, but it is believed that it will not be liable to cause sudden death as chloroform sometimes does.

Therapeutics.—It is chiefly used as an anæsthetic like chloroform. Mr. Snow has used it in sixteen cases, in all of which it acted well, without nausea or vomiting, although in three instances food had been taken recently. Thomas Bird, of Manchester, has given it to six patients, two of whom were children, one being but three months of age. In all these it acted well, nausea being caused in one only. The longest period of its administration in these latter cases was sixteen minutes. The committee of the British Medical Association reports six cases without injurious effects upon either circulation or respiration, and endorses Steffen's opinion that, compared with chloroform, ethidene is pleasanter, more rapid in action, causes no excitement during, nor vomiting after, administration, more rapid recovery from it, and altogether, less danger attending its use. Keppler, in his recently published work on anæsthetics, cites the only published case of death following its use (in Berlin) of which no particulars are given.

ETHYL BROMIDE.

BROMIDE OF ETHYL.



Syn.—*Bromethyl, Bromethane, Hydrobromic ether.*

Preparation.—It is easily prepared by distilling together alcohol, sulphuric acid, and bromide of potassium and sodium, and rectifying the product in the usual way.

Characters.—Pure ethylic bromide is a colourless, volatile liquid, of rather pleasant ethereal odour and strong taste, heavier than water, insoluble in water, soluble in alcohol and ether. Boils at 101°3F. It should be distinguished from bromide of ethylene, which is a very different compound, with a boiling point of 167°8F.

Therapeutical Properties.—(1.) *Anæsthesia.*—Bromide of ethyl has been used in France for the purpose of producing anæsthesia.

by inhalation, like chloroform. The period, in which the anæsthesia is produced by it, varies from thirty seconds to four minutes. The quantity required for anæsthetic effect is from a drachm to half an ounce. *This anæsthetic for short operations stands without a rival.* Although in longer operations it cannot be substituted for ether or chloroform, it is a valuable adjunct to these. It may be employed as a preliminary to the administration of ether or else it may be advantageously used as one of the constituents of an anæsthetic mixture. *The combination of bromide of ethyl and chloroform has been found exceedingly useful in America in labour cases.* The chief advantage of bromide of ethyl is, that, owing to its non-inflammable character, *it can be employed in connection with thermo-cautery or in the presence of open lights.*

(2.) *Nervous Affections.*—*Hysterical attacks* are generally easily arrested by bromide of ethyl. The attack of *hysteria* or *hystero-epilepsy* may be cut short by narcotizing with it for 10 to 15 minutes, 8 to 12 grammes of it being required; and a threatened attack of *hystero-epilepsy* may be averted by giving from $\frac{1}{2}$ to 2 grammes once or twice a day. Epileptic fits may be stopped by giving it throughout the tonic period; frequently it has no effect; but the regular employment in daily inhalations for a period of one or two months very notably diminishes the period of attacks. It has been found serviceable in several cases of psychical excitement. In doses of 15 to 45 mins. it is useful in neurasthenia.

(3.) *Cephalalgias and Cranial Neuralgias.*—Bromide of ethyl is indicated in neuralgia of the nerves of the head and face, in megrim, nervous headaches and heaviness. Inhalations of 20 to 40 drops several times a day *has lessened headache in cases where quinine salicylic acid, caffeine and guarana had all proved useless, and in three cases of headache connected with cirrhosis of the kidney, it was better than any other remedy.*

(4.) *Angina Pectoris and Whooping Cough.*—A solution of one part of bromide of ethyl in two hundred parts of water, is recommended, by Dr. William Squire, as a remedy for whooping-cough, and also in angina pectoris. This is a similar strength to the

chloroform water of the B. P., and its dose is the same, *viz.*, one-half to two ounces.

(5.) Lastly, it is useful as an antispasmodic in asthma, for relieving flatulence and tinnitus aurium, in doses of 10 mins. internally.

Modes of administration and Doses.—

1 to 4 drs. as an anæsthetic, by inhalation, for operations, labour cases, &c. either alone or in combination with chloroform, ether, &c. 10 to 40 mins., by inhalation, in nervous diseases.

Internally 2 to 10 mins., cautiously increased.

ETHYL IODIDE.



Syn.—Hydriodic ether.

Preparation.—May be prepared by distilling together 5 parts of phosphorus, 70 parts of alcohol and 100 parts of iodine. May also be formed by heating in a sealed glass vessel a mixture of hydriodic acid and olefiant gas.

Characters and Tests.—A colourless liquid, of penetrating ethereal odour, having a sp. gr. of 1.92, and boiling at 161° F., is abundantly soluble in alcohol. Heated with potash it gives pure olefiant gas and iodide of potassium. It becomes red by exposure to light, from a commencement of decomposition.

Therapeutical properties.—It produces anæsthesia when used in a similar manner as the bromide, but contact with the hot metal causes disengagement of fumes which are very irritating for the operation. Prof. German Sée has employed inhalation of it in cases of *asthma with speedy relief* to the patient. In cases of *cardiac dyspnœa* it also acted favourably and in 2 cases of *chronic bronchitis accompanied with dyspnœa*. Quite recently in a case of *œdematous laryngitis* 10 or 12 inhalations repeated in a day effected a cure.

Dose.—5 to 10 mins., by inhalation.

ETHYL NITRIS.

NITRITE OF ETHYL.

The preparation employed is SOL. ETHYL NITRITIS, containing 3 per cent. of pure nitrite of ethyl, in absolute alcohol and glycerine.

Therapeutics.—It is useful in the treatment of ailments connected with high tension. Like other nitrites, it causes dilatation of the vessels, and decreases arterial tension, its use being indicated in *dyspnœa*, and especially so in *asthmatic and bronchitic affections*. Compared with the officinal Spiritus Ætheris Nitrosi this solution has the advantage of being more stable in composition and less disagreeable.

Dose.—20 to 80 mins., added to water immediately before administration.

EUCALYPTUS GLOBULUS.

Syn.—*Australian Fever Tree, Blue Gum Tree, Iron Bark, Woolly Butt.*

Part employed.—*The Leaves.*

N. O.—*Myrtaceæ.*

Habitat.—*Australia and Algeria. Cultivated in Corsica and the South of France.*

Characters.—The leaves are petiolate, lanceotately scythe-shaped, from six to twelve inches long, rounded below, tapering above, entire, leathery, gray-green, glandular, feather-veined between the midrib and marginal veins; odor strongly camphoraceous; taste pungently aromatic, somewhat bitter and astringent. For medicinal purposes, the leaves are collected from rather old trees in Australia and Algeria; those from the trees in Corsica and France are considered inferior.

Chemical Composition.—The leaves contain a peculiar resin composed of three different resinous bodies, a volatile oil containing *Eucalyptia, terpene and cymol*, tannic acid, and a crystallizable fatty acid.

History.—Tabillardiere first called attention to the value of the Eucalyptus in 1792. In 1860 the culture of the tree was introduced in Paris, and the Prefect of the Seine ordered its cultivation on a large scale. The wood is of extreme hardness, and grows about five times as fast as ordinary trees; it is even asserted that shingles made of it

are fireproof. To its power of absorption the freedom of Australia from malaria has been attributed. It is stated that the tree will evaporate ten times its weight of water in twenty-four hours, and numerous examples are given of swamps in Europe and Algeria having been rapidly converted by it into dry ground. It is believed to destroy malaria not only by draining the soil, but also by yielding balsamic exudations to the air. The Eucalyptine is most abundant in the leaves.

Physiological actions.—It is warming to the stomach, and in large doses causes a sense of weight at the epigastrium, eructations and diarrhoea. It increases the heart's action, lowers arterial tension, and quickens respiration. In toxic doses it depresses the nerve centres. It is eliminated by the skin, lungs, kidneys, &c.

Therapeutical actions.—Owing to its tonic, stimulant, antispasmodic, febrifuge, and eminently antiseptic properties, eucalyptus is especially indicated in the treatment of catarrhal states of the broncho-pulmonary mucous membrane, intermittent and septic fevers, croup, diphtheria, whooping-cough, purulent catarrhal affections of the genito-urinary organs, and for surgical wounds, ulcers, &c. all of these I am going to describe in detail, with respect to their practical and clinical aspects:—

(1.) *Respiratory Affections.*—(a.) *In bronchitis where the cough is almost constant, with a free watery and frothy expectoration*, a hot infusion, made without boiling, in doses of 1 to 2 spoonfuls every 15 to 60 minutes, combined with the inhalation of the fumes of the hot decoction of the same, is beneficial. (b.) *In subacute and chronic bronchitis* it may often be employed with advantage, especially when there is a tendency to *spasm*; it is not so well adapted to acute affections or to recent inflammation, as it is to chronic cases accompanied by free muco-purulent expectoration. (c.) When there is a profuse offensive catarrhal discharge in *coryza* or *nasal catarrh*, inhalations of the hot infusion of the leaves, remove the fœtor and check the secretions. (d.) *Whooping-cough* is treated by Dr. Wittthauer with the following:—Tinctura eucalypti, 3-0; glycerine and syrup, of each, 15-0; aq. fort., 100-0. A dessert-spoonful every three hours. For babes one and a half to four years of age the dose is 5 to 8 drops, in sweetened water, every three hours. He also recommends the inhalation of the tincture. He has treated only four cases, but with a decided

effect. (e.) As an antispasmodic it is useful in *asthma*. (f.) A case of pulmonary gangrene having foetid breath, cough, dyspnoea and fever; and black offensive sputa, was cured by the administration of the tincture internally. (g.) It is indicated in *croup*, and *ozæna*.

(2.) *Diphtheria*.—Boiling water poured on eucalyptus leaves, and the atmosphere kept constantly disinfected by means of the steam, has proved a simple and successful method of treating this fatal disorder, in the hands of Dr. J. Murray Gibbes, of New Zealand. He claims to have been successful in thirty-seven cases without any stimulants or even medicine except castor oil.

(3.) *Fevers*.—It is useful in the treatment of *intermittents*, especially in those chronic varieties in which quinine has failed; also in septic fevers; is considered of great value in the convalescence from fevers.

(4.) *Aphthous ulcerations in the mouth and throat of children*, are cured by teaspoonful doses of the infusion, owing to its antiseptic and antispasmodic properties.

(5.) *Genito-Urinary Affections*.—It is useful, internally and externally, in the treatment of purulent catarrhal affections of the bladder, urethra and vagina; the eucalyptus in doses of 20 mins. has been found useful in *chronic cystitis with hæmaturia*.

(6.) Like liquorice, eucalyptus has the power of disguising the bitter taste of quinine, and it may be sometimes prescribed with reference to this property.

(7.) *Externally*, suitably diluted, the fluid extract is employed as a disinfectant lotion in gangrenous or foetid suppuration, foul ulcers and offensive discharges of all kinds, and as a stimulant, antiseptic, application in certain chronic skin diseases; also in foetid breath, spongy and bleeding gums &c.

(8.) Fluid extract has been found locally successful in erysipelas of the face, leg, and scrotum. (Dr. T. William.)

For further uses *vide* below "Eucalyptus, Oil."

Preparations and Doses.—Powdered Leaves, 5 to 40 grs.

Fl. Ext., 15 to 60 mins.

Solid. Ext., 3 to 10 grs.

Tr. (1 to 5 Rect. Sp.), $\frac{1}{4}$ to 2 Fl. drs.

EUCALYPTUS OIL.

The oil distilled from the fresh leaves of *Eucalyptus Globulus*, *Eucalyptus Amygdalina*, and probably other species of *Eucalyptus*.

Characters and Tests.—Colourless or pale straw-coloured, becoming darker and thicker by exposure. It has an aromatic odour, and spicy and pungent flavour, leaving a sensation of coldness in the mouth. It is neutral to litmus paper. Sp. gr. about 0.900. Soluble in about an equal weight of alcohol.

EUCALYPTINE OR EUCALYPTIA.

Characters.—This is a specially purified, true distillation from the leaves of the *Eucalyptus Globulus* alone, and is unmixed with any oil of *E. Amygdalina* or other variety. It should not be confounded with the eucalyptus oil of the market. Analytical reports state that it contains upwards of 72 per cent. of Eucalyptol; and that in antizymotic power it is some 30 or 40 times stronger than much of the carbolic acid ordinarily met with, while it is neither poisonous nor irritating. It is also volatile; and being much purer product is well adapted for internal administration.

Therapeutical properties.—Eucalyptus oil or eucalyptine possesses similar properties (yet more effective) to the preparations of the eucalyptus leaves, and is therefore indicated in the similar class of cases just mentioned under the eucalyptus leaves, but still there are certain more special indications for its administration both internally and externally as follows. Its applications are so numerous that little more than an attempt can be made to enumerate them:—

(1.) *Coryza*.—Eucalyptine affords quick relief in *cold in the head and in nasal catarrh*, by simply smelling constantly a small bottle containing it; even when there is a *profuse offensive catarrhal discharge*, inhalations of it will remove the foetor and check the secretions.

(2.) *Ozæna*.—In this affection it is useful both as an inhalation and injection.

(3.) *Bronchial Affections*.—In the *disagreeable, malodorous, yellowish expectorations of bronchitis and consumption*, inhalations have

been of the greatest use as they have also been in *asthma*. Administered internally in both *acute and chronic bronchitis*, the highest authorities, as Gimbert, Gubber, and Carlotti, claim the most excellent results with it. The most important uses of this agent occur in the treatment of catarrhal affections of the broncho-pulmonary mucous membranes. It is not so well adapted to acute affections or to recent inflammation, as it is to chronic cases accompanied by free muco-purulent expectoration. It is also of great utility in *bronchorrhœa*. It should be given internally, and also inhaled either from hot water or from Steam Atomizer. In the treatment of *phthisis*, the breathing of air impregnated with the vapour of eucalyptine has been recommended by many eminent authorities. It eases the cough, facilitates the expectoration, and relieves the dyspnoea. *Vide "Sanitas."*

(4.) *Malarial Fevers*.—One of the most important uses of this agent is in malarial fever; and whether the paroxysm occurs every day, every other day, or every third day, it works well. One distinguished German physician gave it in upwards of five hundred cases, and nearly three-quarters of each form of the malady yielded to the remedy. Authoritative testimony seems settled on one point, viz., that where quinine has been given again and again with little or no benefit, Eucalyptine has been found curative. It is found beneficial in 33 per cent. of cases of intermittent fevers. The longer the duration of the disease the less liable is it to do good; the dose administered is 5 to 10 mins. of the oil *ter die*.

(5.) *Typhoid Fever*.—Eucalyptus oil in doses of 10 mins., with 30 mins. of *sp. ammon. aro.*, 30 mins. of *sp. chlorof.*, and glycerine, has been tried beneficially in typhoid fever, lowering the temperature and cleaning the dirty dry tongue. The temperature which is lowered by eucalyptus, remains steady and permanent, while that reduced by large doses of quinine rises again, a point important to be borne in mind.

(6.) *Scarlet Fever*.—Eucalyptus oil has been recently used in cases of *scarlatina* with great success. The method consists in giving one to four minims of the oil internally every 4 hours in an emulsion; also eucalyptus oil has been sprayed round the bed at frequent intervals; or sprinkling it on the floor of the room or eva-

porating it on a hot iron shovel; and the more important still is, that the patient is to be rubbed all over the body with this oil, not allowing any portion of the skin to escape. This is to be done night and morning for the first few days have gone by, the head and hair being subjected to the same treatment every three days, and at the end of the week a bath of the eucalyptus to be given. The free use of it was unattended by any ill effects in any of the patients or their attendants.

(7.) *Diphtheria*.—It has also been found beneficial in diphtheria either alone or in the following combination:—

R Acid Carbohc, 10 parts; Eucalyptus oil, 5 parts; Liq. Ammonia, 12 parts; Alcohol, 20 parts. M.

A small quantity of this is to be dropped into a small wide-mouthed bottle half filled with cotton or Asbestos, and the bottle well stopped. After a few days a little more may be added, until a strong odour is given off when the bottle is opened.

A physician to whom Dr. Hager recommended the use of the compound thinks that *it prevents the spread of diphtheria*, since, in five families, in each of which one case of diphtheria had become developed, its further spread was arrested, apparently through the use of the antiseptic inhalation. In another family, a second child was taken with the disease; but the child could not be coaxed to inhale the vapor. The inhalations should be as full and deep as possible. In some cases of Coryza, it has been used with most excellent effects.

(8.) *Gastro-Intestinal Affections*.—Owing to its antiseptic antispasmodic and slightly astringent properties, it has been successfully employed in various forms of *acute and chronic diarrhoeas*, and in various forms of *hemorrhage* in intestinal catarrh. In doses of 5 mins. in milk it has recently been found beneficial in *cholera*. Is also serviceable in *ulcer of the stomach*.

(9.) Eucalyptus oil in doses of 5 mins. thrice a day has been found beneficial in several cases of *congestive headaches* only.

(10.) *Genito-Urinary Affections*.—(a.) As it is eliminated by the kidneys as well as by the lungs, it may often be employed with advantage in affections of the *genito-urinary organs*, and is strongly

recommended in these cases by Professor H. C. Wood and others. Dr. Bartholow considers that it is useful in "*chronic desquamative nephritis, granular degeneration of the kidneys, pyelonephritis and hydronephrosis.*" He adds:—"No remedy which the author has hitherto used has seemed to him so effective in *chronic catarrh of the bladder.*" (b.) In *gonorrhœa* it is valuable as an injection or in the form of bougies made of iodoform and eucalyptus. (c.) Vaginal plugs soaked in equal parts of glycerine and eucalyptia greatly relieve the pain and discharge in many forms of *uterine catarrh, displacement* and other disorders. (d.) Mixed with iodoform it is a useful application in *chancreous sores and hard chancres.* (e.) Also useful as an injection in *leucorrhœa*, and as an application in *ulcer of the os uteri.*

(11.) *Antiseptic Midwifery.*—(a.) Dr. Sloan, of Glasgow, uses in place of antiseptic injections a pessary of eucalyptus oil, for which he claims the following advantages:—1st. It is non-poisonous. 2nd. In the quantity and strength required it is unirritating. 3rd. It does not coagulate the lochia, which, by separating the lips of the vulva, can be seen to flow out in a liquid stream. 4th. Its odour is with rare exceptions, a pleasant one. 5th. It seems to act as a uterine stimulant, causing and assisting to maintain uterine contraction. Formed into a pessary of a suitable shape and size it is easily applied to the neighbourhood of the os, and retained there. To secure this, the pessary must be broad and short, must melt slowly but completely, and must contain a large percentage of the antiseptic oil. These requisites I have found the following formula to supply:—Oil of eucalyptus, six drams; white wax, four drams; cocoa butter, four drams; mix and divide into twelve pessaries. One of these must be applied night and morning immediately after the usual sponging, and, though the napkins are frequently changed, the odour will be quite perceptible on the one removed prior to the next sponging twelve hours later.

In cases of miscarriage, or when the lochia has diminished materially in quantity—say, six days after confinement—I have found the above strength produce irritation, and the following will

then be found preferable :—Oil of eucalyptus, four drams ; white wax, 160 grs. ; cocoa butter, four drams ; divide this mixture into twelve pessaries, and label them No. 2. These also may be used at first night and morning, and afterwards at night only. I show you these pessaries ; they are made by first melting together the wax and cocoa butter in a vessel resting in hot water ; the oil of eucalyptus is then mixed with this, and the fluid poured into the ordinary two-dram pessary mould, each cavity being somewhat more than half filled.

(b.) In internal inflammations, and after child birth, injections containing eucalyptus oil have met with extensive favour.

(12.) *Antiseptic Dressings*.—Dr. Th. Siegen recommends, oil of eucalyptus for the preparation of moist dressings, which are inexpensive and rapidly prepared. 3 grains of oil of eucalyptus are dissolved in 15 gm. of alcohol, and the solution mixed with 150 gm. of water (which, of course, separates most of the oil, though it can be retained in suspension for some time). This solution is then incorporated into ordinary gauze, previously well washed so that it will absorb the liquid readily. This gauze is applied moist, covered with gutta percha paper and the whole well fastened with gauze bandages. In cases where thymol-dressings were found to be inert, the eucalyptus-dressings gave very good results. It has also the advantages of not affecting the skin in any way and not producing eczema, even if the strength of the solution is raised to 5 per cent. Much depends on the quality of the oil of eucalyptus, since there are various sorts, and they do not all seem to act alike.

(13.) *Hemorrhages*.—It has been used in the treatment of various forms of *hemorrhage* in *intestinal catarrh*, and in *nasal catarrh*. Dr. Wood says :—“ In these cases it seems to act somewhat like turpentine, but is less irritating. On account of its antiseptic and hæmostatic action it has been found so useful that in the Soudan it was successfully used with the Burroughs' Wound Pad. Each of these pads, with tapes attached, contained a perl (or capsule) of Eucalyptine in its centre, and every soldier carried one in battle. In case of wound, by slight pressure the perl was broken, the Eucalyptine set free, and the pad applied to the bleeding site at

once. The control of the hæmorrhage was satisfactory, and those who used these pads made the best recoveries.

(14.) *Various other topical uses.*—Locally it acts as a tonic, alterative, anodyne, astringent, detergent and antiseptic. (a.) This principle of the Eucalyptus leaves is most convenient as a household remedy. Applied to bruises, strains or sprains, and rubbed on the body after excessive exercise, as boating, bicycling, etc., it removes all disagreeable symptoms and prevents stiffness and soreness. For this purpose it cannot be surpassed. It is sometimes used as a local application in neuralgia and rheumatism. (b.) Eucalyptia is one of the very best agents for *odontalgia*, all that is necessary being to introduce a little into the decayed dental cavity. (c.) For the healing of *suppurating cavities, foul-smelling and ill-conditioned ulcers and wounds, ulceration and softening of the gums*, it has answered extremely well. (d.) Lastly its chief local uses are in *anthrax including senile form, erysipelas, burns, pustular and weeping eczemas, follicular ulcerated tonsillitis, aphthæ, cancrum oris, neuralgia*, in conjunction with iodoform and vaseline in the dry stage of *eczema*, and with olive oil in *rheumatism*. (Burroughs).

Preparations and Doses.—Eucalyptine (Burroughs'), 5 to 10 mins.
Oleum Eucalypti, 1 to 5 or 10 mins.
Ung. Eucalypti, Strength.—1 in 5.
Eucalyptus Saw-dust. Strength 1
in 9. For deodorizing the atmosphere of a sick room.

EUCALYPTOL.

That portion of Eucalyptus oil which in distilling passes over between 338° and 352° F. The oil is treated with caustic potash and chloride of calcium and distilled. It does not form a resinous coating on drying, and is on this account preferred for use in the oro-nasal inhalers.

EULYPTOL.

Properties and Uses.—A mixture of Acid Salicylic, 6 parts; Acid Carbolic, 1 part; Ol. Eucalypti, 1 part. It is soluble in

alcohol and ether, and is useful as a surgical antiseptic, and internally for rheumatism and catarrh. Urine to which a small quantity of Eulyptol has been added, remains unchanged for fully a month.

EUCALYPTUS HONEY.

Syn.—*Black Honey.*

Characters.—A product of the flowers of various species of Eucalyptus growing in Tasmania, collected by a small black coloured insect (bee), called *Apis Nigra Mellifica*. The honey is thick, translucent, and of a deep orange colour, emitting a fragrant aromatic odour, of an eucalyptic character.

Physiological actions.—An ounce or so taken by itself, or mixed with water, milk, or other fluid, quickly gives a sense of warmth throughout the body, and in half an hour the *voice is rendered clearer and the breathing easier*. It has also a slight sedative action, and the urine acquires a hay-like odour, suggestive of the presence of coumarin.

Therapeutical actions.—It is destined to render great services in cases of laryngeal, bronchial, pulmonary, cardiac and scrofulous affections; in typhoid and marsh fevers; whooping-cough or infectious neuroses of expiratory nerves; influenza, renal and vaginal affections, and affections of the bladder. Given in milk or spread on bread, eucalyptus honey may be substituted with advantage for cod liver oil as an alimentary substance.

EUCALYPTUS ROSTRATA.

Syn.—*Red-Gum Tree of Australia.*

Part employed.—*The Gum.*

N. O.—*Myrtaceæ.* *Habitat.*—*Australia.*

Characters.—Gummum Rubrum or red gum, is an exudation from the bark of Eucalyptus Rostrata, a tree indigenous to Australia. It occurs in small pieces of various sizes, of a deep red colour, and shining internally in several places. Solubility, of 100 parts 90 are dissolved by cold water, the solution being clear. 27 parts of Isinglass precipitate all the astringent matter.

Therapeutics.—(1.) This gum adheres with great pertinacity to the mucous surfaces, and it is probably on this account that its astringency is more effective than that of Catechu, Kino, &c., although it contains less amount of astringent matter. It was first introduced into European practice by Sir Donald Martin. The gum is a *powerful astringent both internally and externally. It is efficacious in diarrhoea and dysentery.* The most effective and favourite form of administration is a concentrated decoction (1 to 20), and a dilute one (1 to 40), made by boiling the powdered gum in distilled water for ten minutes and filtering it while hot. For a moderately severe attack of diarrhoea in an adult, commence with 4 drachms of the dilute decoction every 2 or 3 hours; if there be no effect, increase the dose to one ounce every 2 hours, and then gradually diminish the dose and subsequently discontinue it as the diarrhoea is stopped. In an acute case it is better to commence with the stronger decoction (1 to 20). The syrup (1 to 3) may be given to children in doses of 5 to 20 drops with spirits of camphor or other carminative.

(1.) The forms of diarrhoea benefited by it are :—

(a.) That arising from *want of assimilation*, the unaltered food causing irritation, and chiefly useful after this or other harmful substance has been removed. (b.) *The bilious diarrhoea.* (c.) *The congestive diarrhoea*, an inflammatory state of mucous membrane existing; here most useful in the latest stages. (d.) *Summer or sporadic cholera.* (e.) That the result of *amyloid degeneration* of the intestines, usually the small. (f.) *The chronic or white flux.* (g.) In case of *intermittent diarrhoea*, the patient having the attack every 2nd or 3rd day for some time, while well in the interval, it is very effective. (h.) It is useful in cases, which when first seen, present great depression, where the offending cause must be allowed to take its course, and where opium is contraindicated.

(3.) Red gum with liquid extract of bael is found in my hands, a very effective combination for chronic diarrhoea and dysentery in children and adults. The taste of red gum can be improved by the addition of little spirit or aqua chloroform to the mixture. If the griping pains be very severe, a few drops of laudanum may at first

be added with advantage, but omitted as soon as this symptom is in abeyance.

(4.) *Contraindications.*—It is contraindicated in cases where there is great acidity or flatulence. As tannic acid is naturally contained in gum rubrum, and as it diminishes the solvent power of the gastric juice, the drug should not be given too near food.

(5.) 30 to 60 mins. of the liquid extract in a wineglassful of water, injected into the nostrils, *at once stays bleeding from the nose.*

(6.) A tablespoonful of the liquid extract in a pint of water forms an *astringent injection* for the vagina or rectum, in cases of excessive mucous and sanguineous discharges from these organs.

(7.) A drachm of liquid extract in 6 ounces of distilled water is useful as an astringent in cases of conjunctivitis. (P. Squire).

(8.) Suppository made of 5 grs. of powdered red gum, 1 gr. of ext. nux. vom, and stearine, q. s., is an excellent for *relaxed intestines and sphincter.* (P. Squire).

(9.) Red gum lozenges, or gargles, made of 1 part of tr. gummi rubri with 8 parts of water, with little diluted sulphuric acid or syrup of lemons, are beneficial in *relaxed throat.* (P. Squire).

Preparations and Doses.—Gum, 5 to 20 grs.

Decoctum (Red gum 1 oz., water 40 ozs.; boil 10 minutes and strain), $\frac{1}{2}$ to 2 Fl. ozs.; $\frac{1}{2}$ to 2 drs. for children.

Fl. Ext. (Red gum, 7; water 21: dissolve, strain, and add Rect. Sp., 1.), 30 to 60 mins.

Syrup. (Liquid extract, 20; sugar, 12: dissolve), 30 to 60 mins.

Tr. (Gum, 1; Rect. Sp, 4: digest and strain.), 20 to 40 mins. Mixes with water or without becoming turbid.

N. B.—The tincture if made with proof spirit is very apt to become a solid jelly.

EUONYMUS ATROPURPUREUS; EUONYMIN.

Syn.—*Euonymus Americanus*; Wahoo; Burning Bush; Spindle-tree, &c. *N. O.*—*Celastraceæ*.

Part employed.—The Bark. *Habitat.*—United States.

Characters.—In quilled or curved pieces, about one-twelfth of an inch thick; outer surface ash-gray, with blackish patches, detached in thin and small scales; inner surface whitish, or slightly tawny, smooth; fracture smooth, whitish, the inner layers tangentially striate; nearly inodorous; taste sweetish, somewhat bitter and acrid.

Chemical Composition.—It contains an uncrystallizable and highly bitter principle called *Euonymin*. It is a resin, or rather a mixture of various resins, obtained by precipitating it from an alcoholic tincture of the bark, and of a green or brown colour. Both the green and the brown varieties of this resinoid, have been fairly tried by therapeutists of late, but all the evidence goes to prove that, of the two kinds, the brown preparation alone is to be relied upon.

Physiological actions.—Its action is that of a stimulant of the biliary apparatus; its main office being to manufacture bile for the duodenum. By its action on the coats of the stomach, it excites the flow of gastric juice. It arouses the action of the pancreas and relieves the liver. It does not act on the intestines in most cases as a hydragogue, but by inducing contraction of the muscles of the bowel.

Therapeutical actions.—It has tonic, laxative, alterative, diuretic and expectorant properties. *It is an highly efficient cholagogue and hepatic stimulant.* It does not operate as a violent purgative, but produces only one or two stools some hours after its administration. It acts similar to rhubarb but is much milder. It is best combined with a purgative, or followed in the morning by a saline purgative.

“According to Dr. Cornil, euonymin often gives rise to colicky pain, which might be prevented by combining it with an opiate. Its action is temporary, being scarcely prolonged beyond twelve

days ; and when this becomes exhausted, it cannot be aroused by increase of dose."

Euonymin is best indicated in cases of *dyspepsia*, *biliousness*, *constipation*, *hepatic congestion* and *dropsy*.

Administered with Pepsin, euonymin acts as a valuable hepatic and digestive agent, and it meets a want very often felt in the treatment of *indigestion* and *flatulence* due to deficient secretion of bile, as well as *atony* of the stomach and insufficient secretion of gastric juice. *Administered with Cascara Sagrada*, it acts as an excellent laxative and hepatic tonic, useful in chronic constipation with derangement of the liver. *Administered with Bismuth*, it forms a valuable combination in painful gastric affections, and in the cure of *dyspepsia*, gastric ulcer, and vomiting from various causes. In *bilious diarrhœa* it has almost a specific action.

Preparations and Doses.—Powdered Root-bark, 20 to 30 grs.

Fl. Ext., $\frac{1}{2}$ to 2 Fl. drs.

Solid Ext., 5 to 10 grs.

Tr. (1 to 4 Rect. Sp.), 10 to 40 mins.

Euonymin, $\frac{1}{4}$ to 1 gr. as an expectorant and diuretic ; 1 to 4 grs. as an aperient and cholagogue.

EUPATORIUM PERFOLIATUM.

Syn.—Boneset, Thoroughwort. The Indian species, *Eupatorium Ayapana* is known as *Ayápána* (Hind. and Bom.) ; *Allápá* (Guz.).

Parts employed.—The Leaves and Flowering Tops.

N. O.—Compositæ.

Habitat.—South America. Naturalized in various parts of India, Java, Ceylon, France, Mauritius, &c. Common in Bombay gardens and generally known by its Brazilian name *Aya-pana*.

Characters.—A small shrubby plant, 5 to 6 feet high ; branches straight, reddish, with a few simple scattered hairs. Leaves opposite, united at base, from 4 to 6 inches long, tapering, crenately serrate, rugosely veined, rough above, downy and resinous-dotted beneath ;

flower-heads corymbed, numerous, with an oblong involucre of lance-linear scales, and with from 10 to 15 white florets, having a bristly pappus in a single row; odor weak and aromatic, somewhat like ivy, but more agreeable; taste aromatic, astringent and bitter.

History and Early Uses.—Ventenat found *E. Ayapana* growing on the banks of the river of the Amazons. It has been cultivated in India for a considerable time. It was originally brought to India from the Isle of France. The plant was cultivated in the island of Bourbon for the purpose of being dried and sent to France, where it was used for making a kind of tea used as a substitute for the tea of China. At the Mauritius it is in daily use in the form of infusion, in dyspepsia and other affections of the bowels and lungs. In the cholera epidemics in that island in 1854-56, it was extensively used for restoring the warmth of the surface, the languid circulation, &c. As an antidote to snakebites it has been used, both internally and externally, with alleged success. In Bombay it is not uncommon in gardens (Ainslie and Dr. Dymock).

Therapeutical Properties.—The plant has valuable sudorific, tonic, alterative, antiseptic, laxative, emetic, febrifuge, diuretic and mild stimulant properties. It is superior to chamomile as a diaphoretic and may be compared with it in its effects: A cold infusion, taken in small doses, acts as a stimulant and tonic, and a laxative if taken freely; while the hot infusion is slightly emetic and strong diaphoretic, and may be given with advantage in the cold stage of ague and in the stage of depression which precedes acute inflammatory affections. In America it is considered more powerful than barks in the treatment of autumnal fevers of low marshy countries. Dr. Hosack speaks very highly of this plant as a diaphoretic in the cure of yellow fever. It manifests a tonic influence over the digestive apparatus, increases the secretion of bile, and extends its influence over the erectile tissues.

It is indicated as a stimulant tonic in dyspepsia and other cases where a stimulant is needed, also in intermittent, remittent, typhoid and other fevers, coughs, colds, influenza, catarrh and debility.

Locally, the fresh leaves bruised, form a best application for foul ulcers, and as a poultice over the bites of serpents and venomous animals,

Preparations and Doses.—Dried Herb, 20 to 60 grs.

Fl. Ext., 1 to 2 fl. drs.

Solid Ext., 10 to 25 grs.

Inf. (1 to 20), $\frac{1}{2}$ to 2 fl. ozs., according to the effects desired.

Eupatorin (concentration), 1 to 3 grs.

EUPATORIUM PURPUREUM.

Syn.—*Queen of the Meadow, Gravel-weed, Joepyre, Trumpet-weed.*

Part used.—*The Root.* *N. O.*—*Compositae.*

Habitat.—*United States.*

Therapeutics.—It has diuretic, stimulant, astringent and tonic properties. *It is used beneficially in all cases of strangury or suppression of the urine.* It is indicated in *dropsy, gravel, gout, rheumatism, hematuria, leucorrhœa, &c.* It is most effectual in overcoming all spasmodic attacks of the urinary passages.

Preparations and Doses.—Powdered Root, 1 to 3 drs.

Fl. Ext., 30 to 60 mins.

Solid Ext., 3 to 10 grs.

Eupurpurin (concentration) 1 to 4 grs.,

EUPHORBIA PILULIFERA.

Syn.—*Pill-bearing Spurge, Flowery-headed Spurge, Australian asthma weed, snake-weed, Cat's hair, &c.*

Part employed.—*The Herb.* *N. O.*—*Euphorbiaceæ.*

Habitat.—*Equatorial regions.* “*In all tropical America, from Florida and New Mexico to Brazil and Peru. In tropical Africa from the Western Coast to Mozambique. In the Mauritius, in the East Indies, in the South Sea Islands, in China, in Japan, the Sandwich Islands, in Ceylon, in Australia, in the Province of Queensland, near the bay of Rockingham, and all about Rockhampton.*”

Characters.—The euphorbia pilulifera is a member of a genus which comprises 2500 species, chiefly natives of South America. They are all distinguished by the acrid milky juice which exudes from the fresh plant, and which contains irritant toxic principles, varying

in activity from that of a mild stimulant to that of the most energetic poison. *The castor oil, croton oil plants, ipecac spurge, &c.*, belong to this family.

Euphorbia Pilulifera, the plant in question, is an annual herbaceous plant, prostrate or ascending branched, about 1 to 2 feet high, sometimes spreading over the ground not more than 2 or 3 inches high, thriving in all soils, and very difficult to extirminate. Root fibrous when fresh, reddish-brown when dry. The stalk is 10 to 15 inches in length, is thin, round, reddish, more or less procumbent, leafy, sometimes simple, sometimes branching; it is covered with yellowish hairs, especially numerous at the upper extremity. The leaves when fresh are of a fine, deep green, mixed with red on the upper surface; but brown when dried, are opposite, oblong, ovate or lanceolate, an inch and a half to two inches long, and a little more than an inch in breadth, finely denticulated and slightly hairy above and below; one side is somewhat constricted at the base. They have been compared to the leaves of *spearmint and pellitory*, but are a little thicker, and they have an oily savor joined to a slight astringency and acidity, not at all disagreeable. If you cut or tear them there issues a little white, thick juice which is without acidity. In the axils of the leaves, on alternate sides of the stem, are the peduncles which bear a great number of minute, reddish-white flowers, grouped in globular heads, which are single when growing from the shorter peduncles and double when found on those that are longer. The involucre is about $\frac{1}{3}$ of a line long, small entire and without petal-like appendages. The fruit (capsule) first red, then green and brown in the dried plant, consists of the seeds resembling, according to Dr. Tison, of France, a coffee grain, are reddish, acutely oblong, four-sided, transversely wrinkled, the ridges uniting irregularly.

A nearly allied species, *E. Parviflora*, known by its vernacular name of *Dhákati dúdhí* (Bom.), sometimes confounded with, or substituted for, *E. Pilulifera*, is common in India, but is distinguished by the flower-heads having few flowers, by having obtuse minutely papillose seeds, and by the glands of the involucre having a white, obovate-orbicular appendage. If this be used, disappointment may result, as it has no anti-asthmatic properties like *E. Pilulifera*.

Chemical Composition.—It contains no alkaloid, or if one exists in the watery solution it must be in very feeble proportion. Evaporated to dryness, this solution gives rise to a deep reddish-brown substance, with vitreous fracture, aromatic odor, and a very weak but characteristic savor. This extract is soluble in water in all proportions; insoluble in alcohol at 90°, in ether, chloroform, disulphide of carbon and essence of turpentine.

*History and Early Uses.**—Pison seems to have been the first to have spoken of *Euphorbia pilulifera* from a medical standpoint.† After having given an exact but incomplete description of the plant, he adds that, “if chewed or freshly-bruised leaves are applied over a snake bite, they not only assuage the pain, but even remove the venom, and heal the wound. A pinch of the dried powder, taken in some convenient menstruum, excites the heart and arouses the vital forces depressed by the poison.”

Ainslie, in his *Materia Medica*,‡ describes, under the name of “pill-bearing spurge,” a plant of India and Ceylon, which seems to have been either the *Euphorbia pilulifera* of Brazil, or a kindred species with lilac flowers. “The native physicians,” he says, “employ the fresh juice as an outward application in aphthous affections.”

It is evident that the medicinal use of this euphorbia in certain pulmonary affections is of very recent origin. My attention was first directed to notices of this spurge in the *Therapeutic Gazette*. The first reference which I find is in the *Therapeutic Gazette* for 1882, p. 464, in which some Australian testimony as to the marvelous anti-asthmatic virtues of this plant, of the greatest interest to the medical profession, is given. It is described as follows: “This weed is common in town, growing in every garden and in the streets. It is somewhat similar to the pig-weed, but the leaves are not succulent, and lack the acidity of sorrel; further they are covered with a light fur, similar to that on the verbena leaf, and at the joints from whence the leaves take their growth, a small cluster of seed-bearing flowers is found. On breaking the stalk a milky substance exudes, similar in appearance to the thistle-milk.”

* Dr. A. Marsset, Paris, France.

† Opera, Amsterdam, 1658.

‡ Ainslie, *Materia Medica*, London, 1826.

A decoction of this herb, made by boiling a handful in two quarts of water till the quantity is reduced to one quart, is spoken of as being highly efficacious in asthma. (Pärke, Davis).

Physiological actions.—In small doses it is toxic to small animals, killing them by arrest of the respiratory movements and cardiac pulsations, which are first accelerated and then slowed. In the human subject it seems to *act directly on the respiratory and cardiac centres*, leaving intact the other organs. In an affection which seems especially to depend on a particular neurosis of the pneumogastric, we obtain by administration of the drug, a remarkable sedation of the spasmodic symptoms and of these only. *Hence the good results of the euphorbia are due to a particular modification of the functions of the pneumogastric and that it is rather on the medullary centre of this nerve than on the nerve itself that it acts.* It is not cumulative and is eliminated by the liver. Locally it is without action on the skin and mucous membrane, except the gastric mucous membrane, which it irritates (A. Marsset, M.D. France).

Therapeutical actions.—We have in *euphorbia pilulifera*, a drug which is destined to occupy *the most prominent position* in our list of remedies for *asthma*. The capital symptom calling for this new remedy is *paroxysmal spasmodic dyspnœa*. From whatever cause this may arise, the relief obtained from the euphorbia seems to be *speedy and certain*. (Dr. Tison gives favourable reports of this medicine in dyspnœas of cardiac origin, but other observers had no personal experience with it in such cases). *In chronic bronchitis, complicated with asthma*, the action of *euphorbia pilulifera* is far superior to the ordinary expectorants. It is especially indicated in the bronchitis of the old, when the tissues seem to have lost their tone somewhat. There are no special contraindications; it does no harm in proper medicinal doses. It possesses narcotic properties only when given in very large doses. The ordinary effect is that of an antispasmodic.

Evidence of the virtues of a decoction of the leaves of *E. pilulifera* is very general in Queensland and parts of New South Wales, as other kinds of *Euphorbia* have a considerable medicinal reputation in India and elsewhere. The best formula of the decoction is :—Put one ounce of the dried stalks and leaves into two quarts of water, boil down

gently to one quart, or between one and one quart and a half ; of this decoction take a small wineglassful three times a day, and leave off when the attack has ceased ; this decoction will relieve *most obstinate cases of asthma, dyspnœa due to ephysema and chronic bronchitis, as well as coughs, influenza and other ordinary chest affections.* The decoction is not only a capital tonic and preventative of accumulations of mucus, but possesses singular anodyne virtues. It is of great benefit in promoting easy breathing and soothing the bronchi when in a state of inflammation. In small doses as a general respiratory stimulant it may render good service in *paroxysmal dyspnœa of pertussis, spasmodic laryngitis, and angina pectoris.* For further uses and particulars. *Vide* following "*Clinical Reports.*"

Clinical Observations and Reports :—

REPORT I.*—CASE 1.—Mr. C., aged 45, commenced two or three years ago to experience attacks of shortness of breath (paroxysmal dyspnœa), which came on in the night time, once every week or fortnight. Last summer (in 1883) these spells of dyspnœa became almost continuous, existing in the day-time as well as in the night. The patient could not sleep, and what was even worse, he could not lie down ; was obliged to be propped up in bed. He coughed a great deal, and snoring and whistling râles were quite audible all over the chest during the attacks. I treated him first by calmative potions, iodide of potassium, dry cups, &c., which gave some relief. But four or five days after the paroxysms became more severe. I then recommended the decoction of *euphorbia pilulifera*. He recommenced the use of this medicine in the morning ; that very evening he could lie down and sleep quietly, which he had not done before for two months. This was in August, 1883. At that first trial Mr. C. made use of two quarts of the decoction. Since then he has resorted to the same medicine in the same quantity, on two different occasions, and with equally good results. He has not had an attack of the asthma since this period, and has been able always to go to bed at night, and to lie down without any return of his old trouble.

CASE 2.—Service of Dr. Dujardin Beaumetz. The subject of this observation was an asthmatic patient, affected with chronic bronchitis

* A. Marsset, M.D., Paris, France,

and emphysema. Name of the the patient, Joffre J—, aged 53 years. Mother asthmatic, father an inebriate. Entered hospital Cochin, July, 10, 1884. Had been more or less afflicted with chronic bronchitis since 1878; once was kept three months in bed from an acute attack. Every winter for the past six years has been a continued sufferer from paroxysms of dyspnœa coming on the latter part of the night, especially in stormy weather ; these attacks would last an hour or so ; were followed by copious muco-purulent expectoration. In 1884 these attacks came on in the summer, and became very frequent. The emphysematous condition was very marked ; bulging of the thorax, obliteration of the supra-clavicular hollows, increased sonorousness, prolonged expiration, bronchial râles all over the chest. The nights were passed in a sitting posture. Various remedies (as hypodermics of morphia) were given for the dyspnœa, but with little effect. *Euphorbia pilulifera* in 10 drop doses of the tincture, increased to 20 drops *pro re nata* brought the first real relief. She began the remedy the 15th of Oct., and by the 30th was so far recovered as to be able to sleep well at night in a recumbent posture, and the cough and humid râles had well nigh disappeared. The euphorbia was attended with some nausea and gastric oppression. Mile. J. left the hospital Cochin on the 30th ult.

CASE 3.—P. A—, moulder, aged 44, entered the Cochin Hospital July 1st, under the care of Dr. Dujardin-Beaumetz. Omitting particulars as to history, I may say that when this patient first came under my observation, the signs of pulmonary emphysema were marked, and there were bronchial râles all over the thorax, front and behind. A paroxysmal, teasing cough, with muco-purulent expectoration ; nocturnal fits of asthma. The shortness of breath was apparent after exercise ; aggravated by severe weather, and sudden changes of temperature. The 21st of July he had a very severe attack of dyspnœa in the night time. July 22nd he began the euphorbia, taking ten drops of a five-per-cent. dilute alcoholic tincture before going to bed. This remedy was continued till the 27th. The cough and expectoration continue, though a little less painful ; the respiration is more full. August 2.—All the symptoms have improved ; there has been no return of the dyspnœa. August 28th.—The patient has so far recovered as to leave the hospital for resumption of his occupation.

CASE 4.—This was a patient of Dr. Jardet, an interne of the hospitals. The patient was suffering from asthma, connected with chronic bronchitis and emphysema. After the failure of potass. iodide, datura, belladonna, etc., euphorbia pilulifera was administered; five centigrammes of the aqueous extract being given in a teaspoonful of syrup. This was without effect. The dose was increased to ten centigrammes, and the greatest relief followed. After a few days she left off the remedy on account of dizziness following its use, but after a few days resumed it, owing to a crisis of dyspnœa, and always experienced benefit as far as the breathing difficulties were concerned, although giddy sensations (as though she were drunk) always accompanied its action. The next case was one of asthma and emphysema, under the care of Dujardin-Beaumetz. The nocturnal crises of dyspnœa were most painful. There was, however, complete disappearance of the paroxysmal breathing under the daily use of five centigrammes of aqueous extract of euphorbia.

CASE 6, 7, 8, 10.—They are all similar to those above described, so it is needless to describe them.

THE CASE IX., a seedsman, under the care of the writer, is interesting, as illustrating the benefits of euphorbia extract in a case of asthma with a limited emphysema, due originally to an unhealthy occupation, involving respiration of air charged with irritant dust particles. Patient was continually out of breath during the day while engaged in active employment, and had nocturnal asthmatic crises. Was relieved in a most striking manner on taking, for a few days, five centigrammes of aqueous extract just after the evening meal.

CASES XI and XII were patients of Dr. Dujardin-Beaumetz. One had chronic bronchitis and asthma. The crises of dyspnœa speedily yielded to ten-drop doses, every evening of tincture of euphorbia. Case XII concerned a case of emphysema with asthma. This patient had worn out all the ordinary remedies; but he obtained pronounced benefit from the euphorbia, which was continued for several months during the past year (1884). The relief has not been permanent, the nocturnal crises returning when the medicine was suspended, and being of a most intense and exasperating nature. Nevertheless, a resort to this medicine has never failed to arrest or mitigate the asthmatic paroxysms.

Of the twelve patients who were the subjects of the above reports, eleven suffered from crises of dyspnœa with or without emphysema and chronic bronchitis. In some the respiratory distress followed pulmonary disease, in others it preceded all other symptoms. All these patients derived the greatest benefit from the euphorbia; some of them seemed to be radically cured under its use. Dr. Tison gives favorable reports of this medicine in dyspnœas of cardiac origin. I have had no personal experience with it in such cases. In all my patients the heart and kidneys seem to have been sound. The euphorbia pilulifera has not seemed to have any action on the cough and expectoration in chronic bronchitis, nor has it seemed to modify the râles of humid asthma. In the uræmic asthma of renal disease it would seem theoretically to have little power, although as a general respiratory stimulant it may here render service, as in the paroxysmal dyspnœa of pertussis, spasmodic laryngitis, and angina pectoris. I have not observed the toxic and slightly narcotic properties noticed by Dr. Matheson.

REPORT 2.*—During the last summer and fall the inhabitants of this and other portions of western Connecticut have suffered from a severe cough, spasmodic in character, sparing neither young nor old, and which the ordinary cough remedies, usually so efficacious, failed to relieve. If the patient had patience, he might reasonably hope to wear it out in time, if the cough did not wear him out first. At last one of my own family was taken. Lillie N. C., æt. 7, in Nov., 1884, was the first patient. Temperature 102, pulse 120 during the first 24 hours, which aconite, in the usual doses, soon reduced to the normal point. The cough was distressing, especially at night—so severe as to banish slumber. The usual course of expectorants, &c., were tried without effect. I gave euphorbia pilulifera gtt. x, once in two hours during the day. At night had but one or two paroxysms of coughing; cough seemed to be loosened. Gave it the second day as before, and at night she had the first good night's rest in two weeks, for the child rested as well as the remainder of the family. The remedy was continued for a day or two, which cured the cough.

I could give a history of a number of cases, one other in my own family, and several from among my patients, where the remedy has been

*T. S. Hodge, M.D., of Cornwall Bridge, Conn.

proved equally useful, would it not be useless repetition, for I have been very favorably impressed wherever tried.

REPORT 3, 4.*—Mr. T. W. Shepherd, of Milson's Point, Sidney, was for twelve years a martyr to severe attacks of bronchitis, and was completely cured by drinking the decoction made from the plant. Mr. Shepherd made his case public, offering also to supply the herb and seed to any one requiring such for their own treatment. Mr. Shepherd has already distributed through post and otherwise, some 3,000 or 4,000 packages of the dried herb and seeds, and has received a large mass of letters of thanks and testimony in favor of the efficiency of the euphorbia home-made herb tea, seldom a case of failure being reported. I have myself used the herb in some 200 cases of chronic asthma, bronchitis and diseases of the respiratory organs, with the happiest results. In no single instance did it fail to relieve. In several cases of phthisis pulmonalis, I have used the euphorbia pilulifera with decided benefit to the patient, relieving the distressing cough, assisting expectoration, and calming by its anodyne powers. Alcohol fails to extract the medicinal virtues of the herb as efficiently as water. I have used alcoholic preparations, fluid extracts, etc., but more I find equal in efficacy to the infusion or decoction prepared from the dried herb. The best formula is : Put one ounce of the dried stalks and leaves into two quarts of water, boil down gently to one quart, or between one and one quart and a half. Of this decoction take a small wineglassful three times a day, and leave off when the attack has ceased. The decoction is not only a capital tonic and preventive of accumulations of mucus, but possesses singular anodyne virtues. Further, it is not unpleasant to take. One gentleman who has been a martyr to asthma for years, and whose case was deemed almost incurable, found the greatest relief from using the decoction. Besides my own experience of the great virtues of this plant in the treatment of chest affections, cases are being continually reported from all portions of this large colony, testifying to its merits.

REPORT 4.†—You know I have suffered from bronchitis, and that I have told you that on every occasion I visit England I lead a miserable life from this disagreeable affection. I have never been benefited

* Henry M. Marshall, M.D., Government Medical Officer, New South Wales.

† W. Bancroft Esqut, J. P., of Jamaica.

much by any of the usual remedies, and think therefore that I ought to let you know that the euphorbia pilulifera which I procured from you has completely cured, in the primary stage, every attack of bronchitis with which I have been threatened during the last three months. I have derived so much benefit from this new remedy that I have been able to stay in England without the suffering I have experienced on other occasions. I have recommended the euphorbia to several of my friends, and I am glad to say the benefit I derived has been experienced by them also.

REPORT 5.*—I think we have in euphorbia pilulifera, a drug which is destined to occupy the most prominent position in our list of remedies for asthma. Singularly enough, it has never as yet failed in my hands. I would not have it inferred from this that it is an infallible remedy, but that it is entitled to a trial in this obstinate affection. Combined with quebracho, its efficacy is enhanced when there is a complication of emphysema of the lung.

Preparations and Doses.—Dried Herb, 8 to 10 grs.

Decoction (1 oz. of leaves and stalks in 2 quarts of water, boiled down to about 1 quart), $\frac{1}{2}$ to 1 fl. oz.

Fl. Ext., 10 to 30 mins.

Solid Ext., 1 to 2 grs.

Tr. (1 to 5 Pf. Sp.), 10 to 40 mins.

N.B.—When we have to give large doses, or in cases where stomach is irritable, the preparations of euphorbia should be better given in a large quantity of aqueous vehicle, or immediately after or in connection with meals, in order to avoid irritation of gastric mucous membrane; otherwise it can be given before meals, as I have frequently prescribed 10 to 20 mins. of the tr. in an ounce of water with other expectorants, without any untoward results.

EUPHORBIA DRUMMONDII.

It is an euphorbia growing in abundance in many parts of Australia, and is dangerous to stock and sheep. By evaporating a rectified

* H. Hosford St. John, B.A., M.D., Medical Officer of Health, Manti City, Utah.

spirit tincture of the plant, adding ammonia, and separating the precipitate by filtration, Dr. John Reid, Port Germein, S. A., obtains an "active principle" which he names Drumine. The therapeutic effects are said to be very marked. Dr. Reid's experiments on cats and on himself show that solution of drumine, either injected or ingested, has very striking anæsthetic properties. An injection of 4 minims of a 4 per cent. solution quickly relieved a case of chronic sciatica, and a second injection effected a cure.

This has since been utterly denied, and some of Dr. Reid's so-called "drumine" which was sent to Europe has been examined and found to be neither more nor less than crystals of gypsum or sulphate of calcium.

EUPHORBIA GENICULATA.

This is a very poisonous plant, whose natural habitat is in South America, has, according to Dr. Sieckenberger, of Cairo, spread so quickly and extensively as a weed over Egypt, that cattle, horses, sheep, and other animals are constantly getting poisoned by it. The juice of this—as far as Egypt is concerned—accidentally introduced plant has been found to contain caoutchouc, euphorbin, and that acrid resin-acid which is almost always present in euphorbiaceous sap.

Having thus described the Euphorbias of Australia, I need not go any further into the description of the euphorbias of India and other parts of the world, as it will be beyond the scope of my present work which has still to fulfil many important indications, I beg to close this chapter.

EVENING PRIMROSE.

Syn.—*Oenothera biennis*. *Part used.*—*The Flowering tops.*

N. O.—*Onagraceæ*. *Habitat.*—*Europe, North America, &c.*

Characters.—A shrub with simple, alternate, exstipulate, dotless leaves; flowers axillary, almost sessile; calyx superior, 2-4 lobed, valvate in æstivation; petals with twisted æstivation.

Therapeutics.—It is especially indicated in pulmonary and gastric affections, depending on a morbid sensitiveness either in the laryngeal, pulmonary or gastric branches of the pneumogastric nerve, whether of an acute or chronic character. Prof. N. S. Davis, of Chicago, has employed

this remedy successfully in more than twenty cases of asthma, associated with gastric irritability. He says that from his own clinical observations he regards it as a mild, but efficient sedative to nervous sensibility, acting more especially upon the pneumogastric nerve. *It is beneficial in whooping cough and spasmodic asthma.* Externally, a decoction as a wash is efficacious in infantile eruptions, as scald-head, tetter, &c., and as an application to ulcers, either in the form of an unguent or a strong decoction.

Preparations and Doses.—Dried Herb, 20 to 30 grs.

Fl. Ext., 20 to 60 mins.

EXALGINE.

Syn.—*Methyl acetanilide.*

Characters.—It is an isomeric methyl derivative of acetanilide, obtained by treating sodium acetanilide with iodide of methyl, and occurring either in fine acicular or long tablet-like crystals, only slightly soluble in cold water, more so in hot water and very soluble in dilute alcohol.

Physiological actions.—It has a primary action on sensibility, and a thermogenitic action secondarily. It has no cumulative action, and no unpleasant effects upon gastro-intestinal tract. A tolerance of the drug is established by its use, as is shown by experiments on animals, and a similar effect seems to be produced in regard to neuralgia in man. Sometimes it produces ringing in the ears and vertigo. In large doses it produces severe toxic symptoms and death. It may cause symptoms resembling angina pectoris (Dr. A. Pope).

Therapeutical Actions.—(1.) *Exalgine compared with Antipyrin:* As compared with antipyrin, to which it resembles in its physiological effects, its antipyretic action is less, while the analgesic effect is much more marked, than antipyrine. It is more efficacious than antipyrin in neuralgia, without the evil effects of the latter, viz., irritation of the stomach, rash, &c., so often seen after the use of antipyrin.

(2.) *Analgesic, Antineuralgic, &c.*—(a) As an analgesic in therapeutic doses, it is said to be more efficient than antipyrin, antifebrin, and phenacetin, and is less dangerous than aconitine, digitaline,

and all the alkaloids frequently given to patients. Good results have attended its use in visceral neuralgias. As an anti-rheumatic remedy it possesses some power, but is not to be compared with the salicylates. It has showed in several cases a distinct tendency to cause sleep. That it acts favourably in some cases where antipyrin and phenacetin have failed or for some reason are contra-indicated. (Dr. A. B. Pope).

(b.) *Doses of 4 to 6 grs. modify considerably the pain of neuralgia or any painful affection.* It is poisonous when given in doses equivalent to 7 grs. for every 2 pounds of body weight, so that in ordinary therapeutic doses it may be stated to be absolutely inoffensive. It has been administered to hundreds of patients, suffering from *neuralgias of various types*, with marked satisfactory results, and *without any cyanosis* if the dose be not exceeded over 10 or 12 grs. per day. (c.) Exalgine has been successfully used in France in the treatment of the *cephalalgias and muscle pains of La Grippe or Influenza*.

(3.) In diabetes it lessens the amount of urine and sugar eliminated.

(4.) *Contra-indication.*—*Fever* is a contra-indication to the use of exalgine ; if administered during febrile states, it produces cyanosis, unconsciousness, &c.

Mode of Administration and Doses.—

2 to 4 grs., three or four times a day ; the initial dose should not exceed 5 grs., and care should be taken in repeating the dose ; the minimum amount administered during 24 hours is 6 grs., and the maximum 12 grs. It is best ordered in alcoholic solutions, but it may also be given in powder.

FERRUM.

Under this heading I first mention all the internal uses of the well-known salt of iron, viz. “ Ferrum Perchloridum ” and then the properties of some of the new preparations of ferrum (iron).

FERRUM PERCHLORIDUM.

TR. FERRI PERCHLORIDI.

I. *Internal Uses* :—(1.) Alimentary Canal : (a.) Tr. Ferri perchloridi with chlorate of potash and glycerine is indicated in *different*

forms of stomatitis when the acute stage has passed off. (b.) It is very useful for checking the mucous discharge and toning up the general system, in *chronic intestinal catarrh* or *chronic intestinal inflammation* in children, but is contraindicated when there is *profuse discharge of mucus*. (c.) Is similarly beneficial in the last stage of *chronic dysentery*, and in *hemorrhages* from the bowel.

(2.) *Respiratory Affections*.—(a.) It is indicated in *chronic forms of, laryngitis, bronchitis and pneumonia*, where there is *profuse discharge of mucus*.

(3.) *Hemorrhages*.—It is useful in hemorrhages from the bowels, *hæmaturia, hæmatemesis, epistaxis, and hemorrhagic purpura*.

(4.) *Profuse Sweatings*.—Indicated in *chronic phthisis* attended with profuse sweats, or *chronic pleurisy* attended with same, in profuse perspirations attending *exhausting labours*, and in profuse perspirations attending *deep seated abscesses and effusions*.

(5.) *Inflammatory and Septic Affections*.—It is useful in *erysipelas, acute rheumatism of anæmic persons*, as a *prophylactic* against acute rheumatism of anæmic persons, in *diphtheria*, and in *pyæmia* and *septicæmia following operations or childbed*.

(6.) *Scrofulous and Anæmic conditions*.—(a.) It is useful in scrofulous affections and in that condition of blood attended with *boils and abscesses*. (b.) It is beneficial in *Chlorosis*, and menstrual irregularities and *amenorrhæa* of young and anæmic girls when combined with aloes and permanganate of potash. (c.) *In the chloro-anæmic condition attending certain skin diseases* as *rupia, ecthema and impetigo, &c.*

(7.) *Affections of the Urinary Organs*.—(a.) It is beneficial in the latter stages of *acute desquamative nephritis, chronic suppurative pyelitis*. (b.) In *gleet and chronic prostatitis*, it is best given after meals in doses of 20 mins. (c.) In *spermatorrhœa* induced by urethral irritation.

(8.) *Nervous Affections*.—(a.) *In chorea having rheumatic tendency*. (b.) *In all sorts of nervous troubles of a chronic type*, as *insanity, epilepsy, hysteria and neuralgia*.

(9.) In *chronic malarial poisoning*, it is useful after the congestion and enlargement of the spleen are removed.

(10.) In fatty degeneration of the heart and anæmic palpitations and cardiac dilatation, and especially *dilatation of right cavity of the heart*, accompanied by cough, difficult breathing and anasarca.

(11.) It is useful in preparing the system for *grave surgical operations*.

II. *External Uses*.—(1.) *Throat Affections*: (a.) It is useful in *ulcerated or cankered sorethroat* when applied diluted with glycerine and water. (b.) In the sorethroat of *scarlatina* and *simple pharyngitis* whether acute or chronic, it is diluted with water and used as a gargle, or applied in a concentrated form with a brush as above. (c.) In *diphtheritic sorethroat*; in the most malignant form of diphtheria it is applied full strength every 3 hours until the membrane becomes loose; in a milder form it is applied diluted with glycerine equal parts, or as 1 to 2.

(2.) (a.) As an injection in *leucorrhœa* in the strength of drs. 2 to 4 to a quart of water. (b.) As an injection into the rectum in cases of *thread worms*.

(3.) An ointment composed of 1 to 2 or 3 parts of tr. ferri perchloridi with 30 parts of lard or as a lotion mixed with 2 or 3 parts of water is useful in *chronic skin diseases*, as subacute and chronic psoriasis, eczematous lichen and chronic eczema, and over *erysipelalous parts*.

III. *Contraindications*.—It is contraindicated in catarrhal inflammatory conditions of the stomach and intestinal inflammations in its acute stage, hæmoptysis and inflammatory fevers; but is not contra-indicated in infectious fevers, as erysipelas, diphtheria, &c.

FERRI BENZOAS.

A new salt of iron indicated in the treatment of scrofula, either alone or in combination with Cod Liver Oil.

Dose.—10 to 15 grs.

FERRI LACTAS AND ALBUMINAS.

They are the new forms of iron, more readily absorbed into the

system, and do not irritate the stomach, and are perfectly soluble in water.

Doses.—Ferri Albuminas, 10 to 30 grs.

Ferri Lactas, 2 to 10 grs.

FERRI PICRAS.

It is the only preparation of iron, which acts as a cholagogue.

Dose.—1 gr.

FERRI SALICYLAS.

An astringent and antiseptic, for chronic intestinal catarrhs, &c. in doses of 3 to 8 grs.

FERRI SUCCINAS.

Recommended in Jaundice in doses of 2 to 5 grs.

FICUS.

Syn.—*Figs* (Eng.); *Anjira* (Bom.); *Teenáh* (Arab.).

Part used.—*The Fleshy Receptacles.* N. O.—*Urticaceæ.*

Habitat.—*Supposed to be a native of Asia Minor, but now found in all the Southern countries in Europe, in India, Persia, &c.*

Characters.—Compressed, of irregular shape, fleshy, covered with an efflorescence of sugar; of a sweet, fruity odor, and a very sweet, mucilaginous taste. Hollow internally; the inner surface covered with numerous, yellowish, hard achenes.

Therapeutical properties.—The latex of the common fig has been found to possess a peptonizing ferment. In its effect on fibrin and the coagulation of milk this ferment resembles papain. It also produces diastatic reaction in the conversion of starch into sugar; and a syrup made from the dried figs has the same peptonizing properties as the latex. These facts suggest a possible usefulness of a fig-syrup for children as an adjunct to the various starchy foods so much in vogue. It is remarkable that no similar effects could be obtained from the milky juice of *Euphorbiaceæ* or of *Papaver Samniferum*, *chelidonium*, *Taraxacum*, although the fluid secretion in the

pit chess of *Nepenthes* possessed similar peptonizing properties to the latex of the fig-tree (Dr. A. Hansen).

The fruits (figs) possess nutritive, emollient, laxative and mildly laxative properties. When heated and split open, they form a useful application in promoting the suppuration of boils particularly in the mouth or gums.

FICUS DOLIARIA (GAMELLEIRA.)

Part used.—The Milky juice. *Habitat.*—Brazil.

N. O.—*Urticaceæ*.

Characters.—The incisions made into the cortical texture of this tree are followed by a milk like fluid which coagulates rapidly and becomes viscous and elastic. An amorphous powder has been discovered in the extract, to which the name of “*doliarine*” has been given.

Therapeutics.—The action of this milky juice is analogous to that of *carica papaya* in its digestive power. The juice has long been known in Brazil as an active vermifuge in intertropical hyperæmia, owing to its influence upon the duodenal parasites present in this disease and to its powerful drastic purgative properties.

Dose.—2 to 5 drops of the milky juice.

FRIEDRICHSHALL MINERAL WATER.

Composition.—Analysis according to Liebig in grains per gallon.

I. SOLIDS.	Sulphate of Soda	465.1	grains.
	“ Magnesia	395.5	“
	Chloride of Sodium	611.0	“
	“ Magnesium	302.5	“
	Bromide of “	3.7	“
	Sulphate of Potash	15.2	“
	“ Lime	103.4	“
	Carbonate of “	1.1	“
	“ Magnesia	11.6	“
	Silica	3.3	“
		<hr/>	
		1912.4	“
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2. GASES.	Carbonic Acid	53.2	cub. inches.
		<hr/>	

Physiological actions.—In the saline ingredients of Friedrichshall water, we have an efficient means of quickening tissue changes throughout the body, and chiefly of improving the condition and work of the lymphatic glands and of the liver. It also regulates the action of the intestines.

Therapeutical actions.—(1.) *Aperient.* It is given as a simple aperient in some transitory ailment; and in this respect it acts as a *mild laxative*, exceedingly well adapted for all ordinary cases and particularly for persons of delicate constitution and for women. It does not produce disturbance of digestion or interfere with the ordinary occupation of patients engaged in daily pursuits. If a speedy action is desired, or the bowels are much constipated, a little warm water can be added, and usually given before breakfast. A cup of tea or warm milk and water, 15 to 30 minutes after it has been taken, aids its purgative action.

(2.) It is best indicated in cases where it is required to produce some *definite alterative effect upon a disorder of growth, nutrition or like.*

(3.) *Diseases of Nutrition.*—Its effects in regulating the action of the intestines in the *colicky attacks*, which are so common in diseases of nutrition, such as *rickets and congenital syphilis*, is very marked. In almost every case it is found desirable to lessen the dose after the first 8 or 10 days in order to avoid purging. In children at any rate it is best to warm it by the addition of a little very hot water; in these cases, where small doses are being regularly given for sometime, there is no need of our giving any hot tea or hot milk and water, half an hour after its administration, because here action required is an alterative one.

(4.) It has been found serviceable in the following class of cases:—Cases of *hemorrhoids accompanied with constipation, hepatic congestion, constipation of pregnancy*, so often complicated with derangement of digestion, tooth-ache and dyspepsia; cardiac disease and cardiac irritability of young persons, in which it is useful in continuous and diminishing doses; in numerous cases of *scrofulous and glandular swellings* where there is sluggishness of bowels and

tissue change, as will be found from the following clinical cases (Dr. Gubb.)

Clinical Cases.—Case 1.—3 years old; born in India in a malarious district; stated to have had intermittent fever, suffers from colicky pains every week, with pale stools, in the interval constipated. Is emaciated; with dirty complexion. Has slight ricketty curvature of tibiæ. Had been taking cod liver oil and Parrish's Food, quinine, grey powder, &c. The oil was continued and Friedrichshall water in tablespoonful doses was given every morning. The stools improved in colour, liver became normal and he was well, subsequently taking F. Water only occasionally.

Case 2.—Brother of the first and suffering from much the same symptoms, but had cervical glandular enlargements. F. Water and milk diet improved him.

Cases 3, 4, 5.—Were all cases of rickets with marked glandular enlargements and large liver. In all 1 to 4 tablespoonfuls were beneficial.

Case 6.—Had colicky pains and pale stools alternating with diarrhoea.

Case 7.—Hip disease with abscess.

Cases 8, 9, 10.—Had strumous glandular enlargements in armpit and groin.

Case 11.—A case of congenital syphilis with wasting. Aged 4 years. Iodide of potassium grs. 3 given thrice a day and 2 tablespoonfuls of F. Water every morning, with cod liver oil, and exclusively milk diet.

Mode of Administration and Doses.—As a simple aperient $1\frac{1}{2}$ oz. to 4 ozs., or a wine-glassful to half-a-tublerful half an hour before breakfast, for adults; for children 1 to 4 tablespoonfuls according to age.

N. B.—It has less purgative effect upon children than adults, and in all cases any hot drink taken some 15 to 30 minutes after its administration, increases its aperient action.

FUCHSINE.



Syn.—Aniline-red; Rosaniline Monohydrochlorate; Roseine; Magenta; Azaleine, &c.

Preparation.—A mixture of 12 parts of the dry commercial arsenic acid, and 10 parts of aniline, is heated together to 250°—280° F, with addition of water, for about 6 hours. The product is dissolved in hot water and precipitated by a slight excess of soda: the ppt. is washed with water and dissolved in acetic acid, which forms the roseine of commerce. In order to purify this still crude substance, it is boiled with an excess of soda, to separate any aniline that it may contain; and the washed ppt. is dissolved in very dilute mineral acid, filtered and reprecipitated with alkali.

Characters.—In a dry state it occurs in the form of green coloured crystals with golden lustre; with water they furnish an intensely coloured red solution. For medicinal use it should be perfectly pure, commercial fuchsine usually containing a variable amount of arsenic.

Therapeutical properties.—It has been successfully employed as a remedy for *albuminuria*. The cases that were benefited were those of *chronic contracting kidney*, in which cases it gave better results than any other medicinal treatment. Its effect is enhanced by combining it with a salt of iron, as *ferrum redactum* particularly when administered in pills. It colours the urine and frequently the stools. It is used as a dye for microscopic and other purposes.

Dose.— $\frac{1}{2}$ to 4 grs. in pills; usual dose 1 gr.

FUCUS VESICULOSUS.

Syn.—Bladder Wrack; Sea-Wrack.

Part used.—The Vesicles or Bladders.

N. O.—Algae. *Habitat.*—Rocky shores of the Atlantic.

Characters.—A multicellular seaweed (algæ) growing in salt water, forming a foliaceous or filamentous thallus, and of an olive-

green or olive-brown colour. It is propagated by reproductive particles, called spores or sporules. It is flowerless, and consequently seedless.

Chemical composition.—An analysis of *Fucus Vesiculosus* shows it to be rich in iodine. It is in fact, from the burning of sea-weeds similar in their nature to *Fucus Vesiculosus* that kelp, the great source of iodine is derived.

History and Early Uses.—This Alga is much used in winter in certain islands of Scotland for feeding horses and cattle. The expressed juice of its vesicles or bladders has been given internally, and frictions of the plant have been employed externally in glandular and serofulous affections. The substance called Vegetable Ethiops, which has been likewise employed in such cases as the above is a kind of charcoal produced by the incineration of this Alga in close vessels (Bentley). It is said that the efficacy of this article was discovered accidentally by M. Duchesne Dupare, while administering it in a case of psoriasis. The patient, a corpulent person, became remarkably lighter, while at the same time there was improvement in the eruption and in the general health of the patient. This experience in the effects of *Fucus Vesiculosus* on the adipose tissue was confirmed by subsequent trials of the article both in his own hands and in the hands of others. (J. J. Mulheron, M. D.)

Therapeutical properties.—It has long had the reputation of a deobstruent and been given in goitre and serofulous swellings. Its virtues depend on the iodine it contains. The mucus contained in the vesicles has been applied externally with advantage as a solvent in scrofulous tumours. (Dr. Russel).

The most remarkable effect, and the recent application of this remedy, is in *diminishing the fat in obese subjects*, without in other respects injuring the health, and that it is in effect an efficient remedy for *morbid obesity*. It is not till 2 or 3 weeks after beginning with the remedy, that its effect in diminishing obesity begins to be perceived, and one of the first signs of its favourable action is the increase in the flow of urine and the appearance of a black pelticle on its surface. Treatment by this remedy must be persisted in

at least three weeks before condemning it of no value. Failures have often been attributable to the neglect of this injunction. With regard to the beneficial effects of *Fucus Vesiculosus* in obesity Dr. J. J. Mulheron says :—

The effects of many medicines are more prompt when administered in organic combination than when isolated. This is abundantly illustrated in the case of pepsin, pancreatin, vitalized hypophosphites, wheat phosphates, etc. The various salts, also, which enter into the formation of the skeleton are more readily assimilated when taken in the form of organic food than when taken in their pure inorganic state. Doubtless the very excellent results which have been reported as following the administration of *Fucus Vesiculosus*, and its superiority over its constituents when the latter are administered separately, are owing to the fact of the organic combinations into which these constituents have entered in the plant. It is, however, in the obesity of those of the lymphatic temperament, above alluded to, that the beneficial effects of this drug are most marked. It has little or no influence in reducing the “fleshiness” of persons of active habits and of the sanguine temperament. In these, strict regulation of diet affords almost the only prospect of relief, but owing to the keenness of the appetite which usually exists, this regulation can very rarely be enforced. The cases in whom *Fucus Vesiculosus* shows its most decided beneficial effects are women, in whom there exists usually some menstrual derangement, as menorrhagia and leucorrhœa, owing to an atonic and flabby condition of the uterine tissue. In such cases an improvement in these local derangements usually precedes the general reduction of fat and the improved tonicity of the general system.

Preparations and Doses.—Dried plant, 20 to 120 grs.

Fl. Ext., $\frac{1}{2}$ to 2 fl. drs.

Solid Ext., 3 to 10 grs.

Tr. (1 to 8 Pf. Sp.), 1 to 4 fl. drs.

GALIUM APARINE.

Syn.—*Clearers, Goosegrass, Catchwood, Bedstraw.*

Parts employed.—*The Herb and Inspissated Juice.*

N. O.—*Rubiaceæ.*

Habitat.—*Europe and United States.*

Therapeutics.—It has an alterative, aperient, antiscorbutic, refrigerant and powerfully diuretic properties. Is indicated in dropsy, suppression of urine, gravelly complaints and skin diseases. Its chief use more recently is in cases of *obstinate psoriasis*, in which case it has been employed internally in the form of an infusion and externally also in the form of a poultice. The inspissated juice is useful in other skin diseases as *lepra, eczema, acne*, &c. It is a domestic remedy for scrofula, cancer and to stop bleeding, but this has not been sufficiently proved.

Preparations and Doses.—Dried Herb, 1 to 2 drs.

Fl. Ext., 1 to 2 drs.

GARCINIA MANGOSTANA.

Syn.—*Mangostine (Eng.); Mangostane (Fr. and Ger.);*

Mángustán (Bom.)

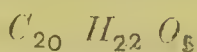
Part employed.—*The Pericarp and Juice.*

N. O.—*Guttiferæ.*

Habitat.—*Madras, Cochin China, Straits Settlements and the Philippine Islands.*

Characters and Chemical Composition.—The dry fruit is globular, tubercled, reddish brown in colour and smaller in size than the ordinary dry bael fruit. It has on its upper surface a six-parted stigma and at the bottom a four-parted thick adherant calyx. On section the interior is found to be hollow, but occasionally contains a small amount of dark brown dried pulp. It has a faint aromatic odor and an astrengent and slightly acidulous taste. The rind of the fruit contains a crystallizable substance, to which the name of *Mongostine* has been given, with some tannin and resinous substance.

MANGOSTINE.



Characters and Tests.—Thin golden yellow scales, tasteless, fusing at 190o F., neutral in reaction, insoluble in water, but readily soluble in alcohol and ether. With sulphuric acid it forms a deep red solution, and with alkalies a yellow solution. It changes the perchloride of iron to a dark green colour, which is removed by the addition of an acid. It is readily soluble in hot dilute acids without change.

Therapeutical properties.—The rind has astringent properties.

It is a pleasant and safe remedy for dysentery and chronic diarrhoea, and has been for a long time in use in India, but which has only recently been tried in Europe and America, Herr Gruppe, of Manilla was the first to introduce it to European practice and he recommends the extract, made from the pods or rind of the fruit, to be the best form. In its native place (*vide "Habitat"*) a decoction of the fruit husks has been the form employed in medicine; with the natives in Bombay the usual mode of administration, is to rub the rind of the fruit with rice water on a clean stone slab, and to mix it with syrup, and administer. In whatever way it may be given, it is no doubt, *a very efficient remedy in chronic forms of diarrhoea and dysentery*. I have a personal experience of its specific effects in a few cases of chronic dysentery in which it succeeded after failure of so called other remedies. Numerous experiments in the Vienna hospitals *have proven it to be almost a specific in the above named affections, and of great service in catarrhal derangements of the uterus, bladder and urethra*, or in conditions in which the use of astringents is indicated, as in leucorrhœa, gleet, nasal catarrh, &c.

Locally it is useful as a gargle in tonsillitis, and, properly diluted, as a lotion for foul ulcers, and for prolapse of the rectum and vagina.

Preparation and Doses.—Powdered pericarp (rind of the fruit), 10 to 60 grs. in the form of infusion.

Fl. Ext. of the rind of the fruit (Parke, Davis's), 15 to 60 mins.

Solid Ext., 1 to 10 grs. in pill form, or to children in syrups.

GELSEMIUM NITIDUM (G. SEMPERVIRENS.)

Syn.—*Yellow Jasmine, Wild Jesamine, Woodbine, &c.*

Part used.—*The Rhizome and Rootlets.*

N. O.—*Loganiaceæ.* *Habitat.*—*United States.*

Characters.—Cylindrical, long, or cut in sections, from a quarter to three-quarters of an inch in diameter, with small rootlets attached to, or mixed with, larger pieces; light-yellowish brown externally, with purplish-brown longitudinal lines; fracture splintery; bark thin, presenting silky fibres in its liber, and closely attached to a pale yellow porous woody axis, with fine, medullary rays, and in the rhizome a thin pith; odor somewhat narcotic and aromatic; taste bitter.

Chemical Composition.—It contains a very powerful alkaloid, *gelsemine*, and *gelsemic* or *gelseminic acid*, besides an acid resin, volatile oil, gallic acid and a yellow colouring matter. The salts of the base are soluble in water.

Physiological actions.—*Gelsemium* is a paralyzer of motility and sensibility. Its paralyzing effect is due to its action on the peripheral nerve-fibres. It acts also on the sensory portion of the cord, producing, at last, complete anæsthesia; but this effect in warm-blooded animals, and in man, is toxic only, and follows the paralysis of the motor functions.

In moderate doses it causes a feeling of mental calm and languor, slowing of the heart's action, drooping of the eyelids, dilatation of the pupil and feebleness of muscular movements. In large doses, causes vertigo, double vision, amblyopia, paralysis of levator palpebræ. In poisonous doses, death results from apnoea, due to paralysis of the respiratory muscles; the cerebral functions and the heart being not directly influenced. The action of gelsemium is somewhat alike that of conium, but differs from the latter in acting primarily on the nerve-centres instead of their end-organs, and in affecting the sensory as well as the motor functions.

Therapeutical actions.—*Gelsemium* is one the most useful additions to our new materia medica, possessing febrifuge, nervine, anti-spasmodic, relaxant, alterative, emmenagogue, parturifacient, styptic and narcotic properties. It has a special influence over the capillary circulation of

the mucous membranes, lessening the hyperæmia and removing the engorgement. It controls inflammation and arrests exudation, and has a quieting influence over the nervous system, and completely relieves tormina and tenesmus. *Subjects of nervous and debilitated constitution are more susceptible to its action*; because in all such cases, I have noticed that even 10 minim doses of the tincture thrice a day, produce all the physiological symptoms of a moderate dose (*vide* "*Physiological actions*"), which soon pass off on lessening or discontinuing it.

(1.) *Neuralgias, &c.*—*It has a specific influence over the first and second branches of the fifth cranial nerve*; hence useful in *trifacial neuralgia, neuralgia of the teeth and alveolar processes*. Also useful in rheumatic, and other forms of neuralgia in full doses.

(2.) *Affections of the Nervous System.*—In diseases of the nervous system, the action of gelsemium depends upon its power of *relieving the irritation and determination of blood to the brain, and the disordered innervation that flows from it*. Cases, that have determination of blood to the brain, have flushed face, bright eyes, contracted pupils and restlessness and irritability, and here we can give gelsemium with certainty. *It is contraindicated when there is tendency to congestion with feeble circulation in the nerve centres; contraindicated when the eyes are dull, pupils dilated, and countenance expressionless.*

(a.) *Acute Mania.*—*A patient labouring under greatest excitement with hallucinations of a violent character can be subdued to calmness and sleep by a free dose of this drug, following each other once in 30 minutes until the drooping of the eyelids reveals its specific effects*. First tone down the excitement by 10 drop doses of concentrated tincture or fluid extract, and then get your patient to sleep by chloroform.

(b.) *Cerebro-Spinal Meningitis, &c.*—Gelsemium is an equalizer of circulatory system and a preventive to local and congestive tendencies; and is an excellent adjuvant to early treatment of *cerebrospinal meningitis (sporadic or endemic)*, and in *inflammatory affections of the meninges*.

(c.) *Tetanus.*—*It is a relaxer of muscular fibres and is therefore indicated in cases where there is rigidity of the muscles and tissues caused by nervous irritation*; being thus a relaxant and resembling in

its action to conium, it is beneficially employed in tetanus. Dr. J. B. Read reports a case of tetanus, occurring in a mulatto woman twenty years old, caused by a fragment of broken glass embedded in the heel. Following the use of gelsemium, in the form of fluid extract, given in increasing doses to forty minims, the spasms were arrested, and the patient recovered. No other remedy of any potency was used after the first six hours.

(d.) *Epilepsy, and Hysteria.*—Although it has no beneficial action in epilepsy, yet it *increases the efficacy of the bromides* when given combined with them. *In hysteria* depending upon ungratified sexual excesses it is useful.

(e.) It is useful in *sleeplessness from over excitement*. (f.) In paralysis, chorea and convulsions, and (g) *in acute congestions of the brain and great nerve-centres* caused by heat-stroke (just mentioned), opium narcosis, &c.

(3.) *Malarious Fevers.*—(a.) *Gelsemium has a powerful effect upon malaria*, owing to the relaxing influences which it brings to bear upon the system, thereby increasing radiation and assisting in the elimination of morbid matters. From these properties Dr. Davis holds it to be great adjuvant to the salts of cinchona. He does not believe it to be at all curative in the sense that quinine is, and yet in so called many *chronic cases*, where the liver, kidneys, and the entire excretory apparatus, are torpid it is *more beneficial than quinine itself*, its action being due to its influence in stimulating the excretory apparatus to the throwing off of the morbid matters in the system.

(b.) *Ague or Chill Fever.*—*Gelsemium has febrifuge qualities of great power*; given in doses of 3 to 10 drops of the fluid extract, will not be likely to have the desired effect; given in ordinary doses it will not cure chills; but if the stomach has been prepared for it by the use of a pill or 2 or 3 pills composed of podophyllin and leptandrin with ext. hyoscyami, $\frac{1}{2}$ or $\frac{3}{4}$ gr. each, one at a time, and then *gelsemium be given it will arrest chills as often as any other remedy*; here the fluid extract to be given in $\frac{1}{4}$ or $\frac{1}{2}$ drop doses once in 20 or 30 minutes, beginning usually 3 hrs. or so before the time of the expected chills; children may be given much less. If this does not succeed, the dose is not increased but lessened (Dr. Davis).

(c.) Combined with *quinine*, *hydrastine* or *cerasein* it is valuable in the treatment of *intermittent fevers*, and also increases the effects of these drugs.

(d.) It also acts as a diaphoretic in drop doses of the fluid extract every half hour, until 10 to 20 drops have been taken.

(e.) Gelsemium is useful in cases of *high temperatures with dry tongue, rapid small pulse, delirium, severe spinal disturbance*, as convulsions, opisthotonos, &c., whether in intermittent, remittent or other continued fevers, sunstroke, &c. A patient was suffering from high temperature, with dry tongue, rapid and small pulse, delirium and severe spinal disturbances; convulsions and opisthotonos were produced by the slightest noise; here 5 drops of the fluid extract every hour diminished these symptoms.

(4.) *Sunstroke*.—It is very useful in sunstroke or heat apoplexy, owing to its power of lessening the cerebral hyperæmia and removing the engorgement, and of controlling the inflammation, by its direct action on the spinal and sympathetic nerve centres, &c. A man stricken with heat was rolling on ground in extreme convulsions as could not be held by persons and was bereft of sense, throwing chairs, &c.; 20 mins. of fl. ext. of gelsemium was injected into the cellular tissue of pectoral muscle, when his violence gradually subsided and regained consciousness within half an hour and one hour afterwards was able to swallow:—Calomel grs. 10, Ipecac. grs. 20, Sodæ Bicarb, grs. 10. Next day he completely recovered. (In heat stroke we are sure to find liver greatly engorged and perfectly torpid, and so there is indication for an active cholagogue, as calomel, whose effect is enhanced by ipecac. and soda). When a subject of sunstroke is insensible or in convulsions with contracted pupil, flushed face, strong, bounding or even full pulse, he should be bled or venesected until the dark blood turns into red; with these you can sponge the body, apply cold to the head and warmth to the feet, &c. On the other hand, a cool surface, very feeble or intermittent pulse, and pallor preclude venesection, but not gelsemium (Dr. Davis).

(5.) *Affections of the Genito-Urinary System*.—In the treatment of inflammatory diseases peculiar to women, whether of an acute or

chronic nature it is an important remedy. *In the congestion and inflammation of the pelvic viscera*, the nervous centres have become so disturbed that the affections merit classification under the head of the *neuroses* and *in these the action of gelsemium is characteristic*. The action of the drug directly on the nerve-centres, spinal and sympathetic, by equalizing the circulation and giving tone to cell power, relieves congestion and inflammation of the parts under their control. It has a peculiarly *relaxing effect over the uterus and its appendages*.

(a.) *Protracted Labour*.—In cases of protracted labour caused by a *firm, unyielding and rigid os and cervix*, when the membranes are thin and firmly stretched over the advancing vertex, this condition being invariably associated with irritation and hyperæmia of the brain, gelsemium given in small repeated doses, works beneficially.

(b.) It is useful in *neuralgia in urinary*, and in various *uterine and ovarian reflexes* and in *dysmenorrhœa*, *ammenorrhœa*, *leucorrhœa*, and after pains. There is no more generally-useful medicine in *ovarian neuralgia*.

(c.) *Dysuria, Enuresis, &c.*—Gelsemium gives prompt relief in dysuria from stricture of the urethra. In irritation of the bladder it is found to give satisfactory results in the following combination :—

R Pot. Carbon. dr. i, Pot. Bromidi. dr. $1\frac{1}{2}$, Ext. Gelsem. Fl. dr. $1\frac{1}{2}$ Aquæ ad zss. 2. M. One teaspoonful ter die (d.) It is also useful in catarrh of the bladder and urethra, acute stage of gonorrhœa. In spermatorrhœa, the following recipe has been found very efficacious :—
R Gelsemin grs. 8, Lupulin grs. 48. Mix and divide into 16 powders, give one at night, on retiring.

(6.) *Pulmonary Affections*.—In cases of cough where there is *excessive irritability of the respiratory centres*, so that a small secretion of mucus sets up a violent and frequent cough, gelsemium is well indicated. It is also indicated in *pulmonary hemorrhage, whooping cough, pneumonia and pleurisy*.

(7.) *Convulsive and Inflammatory Affections of Children*.—In convulsive disorders and where the spasm is dependent upon reflex irritation, Dr. Davis knows of no remedy which satisfactorily fulfils the indication. Its beneficial effects is particularly noticeable in the child-

ren's treatment, who from their peculiar sensitiveness of the spinal centres and increased reflex irritability are more liable to convulsions than adults. The common complications in diseases of childhood are *flushed face, bright eyes, contracted pupils, restlessness and irritability, and here we give gelsemium with certainty*; it relieves irritation and determination of blood to the brain and disordered innervation that flows from it, and also relieves such symptoms as high temperature, rapid small pulse, delirium, convulsions and opisthotonos, &c.

(8.) Lastly gelsemium is indicated in anæmia, diseases of the eye and ear, hemorrhages of every kind, in acute dysentery to relieve tormina and tenesmus, and for the destruction of the animalculas in the body.

(9.) *Contraindications.*—Gelsemium is contraindicated when the *circulation is feeble*, and when there is a tendency to congestion, especially when there is a *feeble circulation in the nerve-centres*. We never give it when the *eyes are dull, pupils dilated* and countenance expressionless.

Toxicology.—The antidotes to gelsemium are morphia with digitalis, also diffusible stimulants and galvanism; while gelsemium itself is an antidote to opium or morphia narcosis.

Preparations and Doses.—Powdered Root, 2 to 5 grs.

Fl. Ext., 1 to 10 or 20 mins.

Solid Ext., $\frac{1}{2}$ to 2 grs.

Tr. (1 to 8 Pf. Sp.), 5 to 30 mins.

Gelsemin or Gelsemperin (this is the powdered extractive of the root and must not be confounded with the alkaloid *Gelsemina*), $\frac{1}{8}$ to 1 gr. as an average dose; 2 grs. as a maximum dose.

N. B.—Residents in a warm climate require a larger dose than those in a cold one.

GELSEMINA.

Syn.—*Gelsemia*.

A yellowish white powder, sparingly soluble in water, intensely bitter, and with strong basic properties. Applied locally it dilates the pupil of the eye.

Dose.— $1/60$ to $1/20$ gr.

GELSEMINÆ HYDROCHLORAS.

Properties and Doses.—It occurs in white granular crystals, freely soluble in water. $1/60$ to $1/20$ gr. used hypodermically is useful for quickly dilating the pupil of the eye for ophthalmoscopic examination, being much quicker than *Atropine* in its action, the dilated pupil consequently more rapidly subsides. Is of great value in cases of neuralgia, even when the teeth are carious, and may be given hypodermically in obstinate facial neuralgias. Has been used with great success in cases of rigid or uteri during labor, it also possesses the power of dilating the os uteri in the non-puerperal state.

Dose.— $1/60$ to $1/20$ gr.

GERANIUM MACULATUM.

Syn.—*Crane's bill*, *Purple Crow-foot*, *Alum Root*, *Spotted Geranium*, &c.

Part used.—*The Rhizome*.

N. O.—*Geraniaceæ*.

Habitat.—*United States*.

Characters.—Horizontal, cylindrical, two to three inches long; half an inch or less thick; tuberculated, longitudinally wrinkled, dark brown; bark thin; wood-wedges yellowish, small, forming a circle near the cambium line; medullary rays broad; central pith large; rootlets thin, fragile; inodorous; taste astringent.

Physiological actions.—It stimulates and contracts the calibre of the capillary vessels of the mucous membranes, and interrupts the exudation in catarrhal affections. It promotes the secretive power of the mucous surfaces, and leaves them moist and invigorated in the functions.

Therapeutical actions.—*Geranium* is a powerful astringent and is an effective remedy in *chronic diarrhœa* and *dysentery*, after the use of the proper evacuants, and also in the treatment of *latter stages of cholera infantum*. In dysentery and diarrhœa it forms a suitable adjunct with *hydrastine*. It is also indicated in hæmoptysis, hæmaturia, passive hemorrhages, gleet, leucorrhœa, diabetes, and all hemorrhagic affections of the mucous surfaces. Locally it is used as a gargle in sore throat and ulcerations of the mouth.

Preparations and Doses.—Powdered Rhizome, 20 to 40 grs.

Fl. Ext., 30 to 60 mins.

GLYCERINE.

Test.—A delicate test for glycerine is to take 2 drops of carbolic acid with 2000 to 5000 drops of water and add one drop of a solution of ferric chloride in the absence of glycerine a blue colour results, but if it be present the colour does not form.

Therapeutical properties.—It has an antifermentative, bactericide, emollient, nutrient, and laxative properties.

(1.) *Acidity, Pyrosis, Flatulence, &c.*—(a.) Dr. Sidney Ringer and Wm. Murrel have been using glycerin as a remedy for the above symptoms of gastric derangement, and find it very useful, owing, probably, to its effect of retarding or preventing certain putrefactive changes in the stomach. In some cases it relieves pain and vomiting. They quote the observations of Murlies, Murk and Wilmot, which show that glycerin retards or arrests decomposition of nitrogenous substances; that 2 to 3 per cent. will delay lactic fermentation of milk from 18 to 24 hours; that meats are preserved when immersed in glycerin, and that bacteria are destroyed by it. (b.) Glycerine in one drachm doses is also useful in preventing stomach troubles in convalescence from debilitating diseases, cuts short an attack of indigestion, and controls (sometimes) vomiting of pregnancy and stomach weakness, acute or chronic.

(2.) *Infantile diarrhœa.*—Owing to its antiseptic properties glycerine in doses of 20 mins. glycerine of borax is eminently useful in the treatment of summer diarrhœa of infants, preventing excessive

fermentation in the stomach and intestines, soothing the mucous membrane, lessening the griping pains, rendering sweet the offensive motions and checking the diarrhoea (Dr. E. M. Simpson).

(3.) It is an effective and safe *emetic for infants*.

(4.) Glycerine relieves pain and congestion of *inflamed piles* and chiefly mucous surfaces, when given internally.

Pulmonary Affections.—(a.) As a substitute for cod liver oil, iodized glycerine with iodide of potassium is a good tonic for *phthisical patients* whose stomachs are unable to bear the oil. (b.) when vaporized in a suitable apparatus and its fumes inhaled, glycerine is a simple expedient in cases of *bronchial affections and distressing coughs* and many eminent vocalists are fully alive to the value of this substance as a *voice strengthener* and *throat invigorator*.

(6.) *Laxative*.—In combination with cascara sagrada and nuxvomica it acts as a laxative and tonic ; *increases the purgative action of castor oil*, viz., equal parts of glycerine and castor oil—say, a drachm of each, act more energetically, than castor oil alone, as an aperient. *It also increases the purgative action of sulphate of soda* ; in some cases where sulphate of soda alone fails to act, when combined with glycerine, it acts energetically and even succeeds when other aperients have failed. It counteracts the constipating effects of tr. ferri. perchl.

(7.) *Trichinosis*.—Large doses of glycerine are effective for trichinosis and that several cases of trichinosis have recovered.

(8.) *Small-Pox Pitting*.—Application of iodized glycerine prevents the pitting which may result after an attack of small-pox.

(9.) *Glycerine Injections and Suppositories*.—The purgative effects, rapid and certain, of half a drachm of pure glycerine injected per rectum, is now well-known and fully established. It produces an active reflex intestinal peristalsis within two or three minutes, owing to some direct chemical action of the glycerine on the rectal mucous membrane, possibly a combined stimulant and mechanical effect, the latter due to abstraction of water or rather excitation of a watery discharge. The glycerine used must be *pure*, but, if irritation be feared, it may be diluted with a third part of water ; in some cases one drachm will be required. This remarkable influence of glycerine injections is really useful in dislodging

fecal accumulations, and relieving constipation, even of the chronic form. As a matter of course, quite a number of special "glycerine syringes" have been duly invented. One of the best is that designed by Dr. Milburn, of Hull.

These enematas have been recently replaced by what are called "glycerine suppositories." The remedy is known for the extreme promptness of its action, varying from a few minutes to half an hour. The action of these suppositories is *confined only to lower part of the rectum and usually the lower part of the great intestines*, and they are useless when obstruction is above these tracts; these suppositories as well the enematas are *contraindicated in febrile or inflammatory conditions of the intestinal tract*. These glycerine suppositories contain 95 per cent. of pure glycerine, and provide a certain, agreeable, and easy method of emptying the colon at pleasure. After the insertion the suppository should be retained as long as possible, in order to obtain the best results. Dr. Grewcock suggests, in place of injection, the introduction of a piece of cotton wool, the size of a nut, well saturated with glycerine, having found this to act quite as well. Mr. George Rice states that he has found rectal injections of 2 drachms of glycerine very valuable in treatment of children in cases of *simple diarrhœa and prolapse*, marked improvement following at once after the first injection.

(10.) *Assuager of Thirst*.—In cases of enteric fever and other febrile conditions, painting the tongue with glycerine is found eminently useful in relieving the distressing dryness of the tongue and thirst which so often prevent the patients from obtaining sleep and are in other ways a great source of discomfort to them (Surg.-Maj. Cotter).

(11.) *Salicylate of soda* dissolved in glycerine has its medicinal effect greatly enhanced. *Naphthalin*, which acts as an antiseptic agent, and useful against the diarrhœa in cases of intestinal catarrh even when chronic, may be administered in glycerine in which it is soluble when the solvent is slightly warmed. *Mercuric iodide* with glycerine makes a good paint for corns. It has been known for a long time that glycerine is not absorbed by the skin, and that it also prevents the absorption of medicines, and to a great extent that of *corr. subl.* Therefore on account of its great cleanliness and greater security from the absorption of mercurials it is to be preferred to blue ointment.

GLYCERINI ALUMINIS.

Made by dissolving one ounce of alum in five ounces of glycerine, by means of a gentle heat, is four times as strong as a saturated watery solution. Is indicated in all cases where a powerful local astringent is needed and has the advantage over tannic acid of being far less disagreeable, equally astringent and quite compatible with an administration of iron. In cases of chronic pharyngitis so common in children, it is very efficacious; diluted with water it forms an useful gargle, injection, or lotion.

GLYCERINI BISMUTHI NITRATIS.

Dr. Balmano Squire says of this formula:—"As an application to the skin, or to the vagina or uterus, or to the throat, when bismuth in solution is required, nothing can be better than the solution of the nitrate of bismuth in glycerine. As a mixture to be taken internally, nothing more is necessary than that the mixture should be ordered as a solution of the salt in glycerine—one teaspoonful for a dose, to be mixed in half a wine-glassful of water before taking it. Then, if the patient does not look too long at it before he swallows it, he will certainly swallow a perfectly clear solution, and one, moreover, *which will probably do him more good than any other preparation of bismuth that has yet been devised.*

GLYCERINI PLUMBI SUB-ACETATIS,

Preparation.—R. Plumbi Acetatis, parts 5; Plumbi Oxidi, parts $3\frac{1}{2}$; glycerini, parts 20. Heat all these for half an hour in a boiling glycerine bath, constantly stirring and filter in a glass oven. The result is a perfectly clear and colourless liquid.

Properties and Uses.—This application is perfectly effective in chronic eczema. The first effect of application is to render the eczematous skin redder and more inflamed as well as moister. The redness is due simply to greatly increased transparency of the cuticle and of the skin scabs or scales, consequent on their infiltration with glycerine, &c. The skin previous to each application of

glycerine ought to be boldly washed with a soft sponge well moistened with warm water and soap. The strength of the solution can be readily reduced by the addition of little pure glycerine (Dr. Balmanno Squire.)

GOSSYPIUM HERBACEUM.

Syn.—Cotton Plant (*Eng*); *Ru-nu-jhada*, *Vona* (*Guj*); *Kapasa* (*Hind and Mah*) *Karapasi Sans*).

Parts used.—The Root-bark, Leaves, and Seeds.

N. O.—*Malvaceæ*.

Habitat.—All tropical and subtropical countries.

Characters.—An herbaceous plant, having long petiolated, palmate, 3-5 lobed leaves, of a green or darkish green colour; flowers yellow. The bark of the root occurs in thin flexible bands or quilled pieces, outer surface brownish-yellow, with slight longitudinal ridges or meshes, small black circular dots, and dull brownish-orange patches, from the abrasion of the thin cork; inner surface whitish, of a silky lustre, and finely striate; bast-fibres long, tough, and separable into papery layers; inodorous; taste very slightly acrid and faintly astringent. The seeds are oblong or ovate, pointed at one end, and covered with silvery white hairs.

Therapeutical properties.—It appears to have first attracted the attention from being used by the female negroes to produce abortion, and has been now used in the Southern States of America for criminal abortion. It possesses an emmenagogue and parturient properties, operates without pain and is safer than ergot. If we compare *radix gossypii* with ergot we must acknowledge that ergot is more active during parturition. In order to obtain the same result with the *gossypium radix* too frequent doses are necessary; on the other hand ergot often brings about bad results while *gossypium* may be given in large doses with impunity especially when given during the first stage of labour. In gynæcological practice, on the other hand, ergot cannot concur with *gossypium*, since here rapidity of action is not so necessary and it can be given without any unpleasant secondary or after effects as frequently complained of during a prolonged course of ergot sub-cutaneously or per os.

It is employed both during first and second stages of labour in doses of drs. 2 of the fluid extract every half hour. *The physiological action differs from that of ergotine.* If given during a hemorrhage, but little action can be realized ; if administered immediately after, the succeeding or following attacks will be much shorter and milder, the quantity of blood lost diminishes, and finally, the periods between the attacks, are of longer duration. In cases of *subinvolution after confinement and after abortion it acts admirably.*

Gossypium radix is useful in *dysmenorrhœa and suppression of the menses produced by cold.* Phillips says : " It has proved useful in several of my own cases suffering from *hæmoptysis*, and is spoken well of in the *hemorrhage of abortion.* It has been used in the West Indies for dysentery, strangury and gravel.

The juice of the leaves is used in dysentery; and externally in the form of poultice the leaves hasten the maturation of boils, and with oil they are applied as a plaster to gouty joints. The seeds are expectorant aphrodisiac, and galactagogue.

Preparations and Doses.—Powdered Root-bark, 20 to 60 grs.

Fl. Ext., 30 to 60 ms.

Solid Ext. 3 to 15 grs.

Tr. (1 to 4 Pf. Sp.), 1 to 4 fl. drs..

Decoct. (1 to 10), $\frac{1}{2}$ to 2 Fl. ozs.

Gossypin (concentration) 1 to 5 grs.

GRINDELIA ROBUSTA.

Syn.—*Hardy Grindelia* ; *Gum Plant.*

Part used.—*The Leaves and Flowering tops.*

N. O.—*Compositæ.* *Habitat.*—*California.*

Characters.—Leaves about 2 inches or less long, oblong or lanceolate, sessile or clasping, obtuse, sharply serrate, pale green, smooth, finely dotted, brittle ; heads many flowered ; involucre hemispherical, about half an inch broad, composed of numerous, imbricated, squarrosely-tipped scales ; ray-florets yellow, ligulate pistillate ; disk-florets, tubular, perfect. Odor balsamic ; taste pungently aromatic and bitter.

Therapeutical properties.—It is antispasmodic, sedative, expectorant, antiperiodic, and stimulant to the mucous membranes.

(1). *Respiratory Affections.*—(a) *Asthma*: The chief clinical history of *grindelia robusta* centres about asthma and its concomitants, and it comes as near being a specific as any medicine can. Its discovery ranks before that of *euphorbia pilulifera*, but since the discovery of the latter drug it has somewhat fallen into disuse. Its greatest power has been manifested when the *asthmatic paroxysms recur at night or when there is a certain periodicity in the recurrence of the asthmatic paroxysms and dyspnœa*. The greatest relief will be afforded by inhalations of *grindelia* one drachm in a pint of boiling water, when the whole spasm will be over in 5 or 10 minutes and its return can be prevented by 10 to 30 drops of the fluid extract internally several times a day. Dr. Q. S. Smith has had the gratification of quoting the perfect cure of a patient who had suffered severe attacks of asthma from childhood : Dr. T. M. Rochester, as the result of two years' experience, says: "I feel that I thoroughly recommend it, as it has proved, in my hands at least, far superior to any of the other remedies or methods of treatment for asthma." Besides the inhalation of *grindelia* in asthma, there are two other modes of administration of it in the said complaint, viz., some give it in three grain doses of the extract, thrice a day, to prevent an asthmatic attack; others give it, to cut short the attack, in 20 to 30 mins. of the *fluid extract* every half hour, or hourly, beginning at the very onset of the paroxysms.

(b.) *Whooping cough*: In whooping cough it will modify the intensity and lessen the frequency of the paroxysms and is often useful as an intercurrent remedy in this troublesome affection. Dr. Pattee has found that the exhibition of the *fluid extract* effected the cure of whooping cough in thirty cases.

(c.) *Inveterate chronic bronchial catarrhs and chronic bronchitis of the aged* are rapidly relieved by *grindelia*, owing to its stimulant effect upon the bronchial mucous membrane. (d.) In the cough of phthisis and in the cough of cardiac hypertrophy, it will be highly ameliorating.

(d.) *In rose cold, hay asthma and autumnal catarrh*, doses of a teaspoonful of a mixture of fluid extract 1 oz. in 4 ozs. of simple

syrup, four times a day, will relieve distress the first day and a cure within a week.

Indeed in none of the affections of the air passages does it appear of much value unless there be a certain periodicity in the recurrence of the symptoms, and further, that it entirely fails to relieve any respiratory disturbance accompanying other palmonary diseases, as well as those caused by cardiac and nervous diseases ; but when these bronchial affections, as chronic bronchitis, bronchorrhœa or chronic pneumonitis *are associated with asthmatic paroxysms recurring at nights or in patients whose cold always takes this form of dyspnœa*, the greatest relief will be afforded by grindelia and especially by inhalations (one drachm in a pint of boiling water), when the whole spasm will be over in 5 or 10 minutes and its return can be prevented by 10 drop doses of the liquid extract internally several times a day. It is also indicated in *emphysema*. In combination with bromide of ammonium it allays laryngeal irritability after the lungs are relieved from mucous secretions.

(2.) *Cardiac Affections*.—In the *dyspnœa from heart diseases* and in the cough of cardiac hypertrophy it will be highly ameliorating, and in the heart complications, an admirable *adjunct to digitalis*. From experiments of Bartholow and Buffington, grindelia has been found useful in heart disease ; that the extract has very marked influence on the frequency of systole and that *the best result is obtained in heart disease by combining grindelia with Adonis Vernalis*. Prof. Buffalini has in the last two years repeatedly administered *grindelia*, and has in many cases of *irregular, intermittent pulse*, obtained remarkable results with it. He therefore strongly recommends this drug in all cardiac affections in which a regulating effect on the heart's action and the restoration of an arhythmic pulse are indicated.

(3.) *Eye Affections*:—grindelia robusta seems to possess an almost specific action in certain disorders of the eye. In *conjunctivitis* and *purulent ophthalmia*, it has been found greatly serviceable ; but particularly in *iritis* is its power evidenced ; this when *traumatic* will always yield quickly to this treatment and when arising from *cold* or a *metastasis of rheumatism* it is almost as reliable. In *arthritic, syphilitic and scrofulous iritis* it does not answer so well ; in other words when the case is *acute with pain and fever* it does good and when *subacute and slowly progressing*, it fails.

(4.) *Genito-Urinary Affections*.—Grindelia Robusta is often indicated in affections of the genito-urinary organs. In those painful conditions *priapism* in one sex and *vaginitis* in the other, its application soon brings relief. It should be used 1 part to 4 of hot water, as hot as can be borne. In *urethritis* and *vaginal catarrh*, in *chronic cystitis* and in *leucorrhœa* and *gleet*, the local and systemic use of this drug, will be found fully equal to any remedy we possess. Its active principles appear to be excreted by the kidneys; hence, large doses sometimes produce renal irritations; and in *chronic catarrh of the bladder* good has been effected by the stimulant influence upon the mucous membrane of the viscus.

(4.) It has been used in cancer of the stomach and is found to allay nausea and retching, relieve the prostration and quiet the nervous system.

(5.) Addition of calomel in minute doses increases the expectorant effects of grindelia; and iodide of potassium added, promotes its constitutional results; and addition of bromide of ammonium allays laryngeal irritability, &c.

(6.) *Local Uses*.—Grindelia has been regarded as a specific in the treatment of *poisoning by Rhus Toxicodendron*, in the bites of venomous serpents and in the stings of insects. It is an excellent dressing for *burns and scalds*, when these are superficial; applied in the form of wet cloths it soothes the agonizing pain; *chronic ulcerations*, even when deep and fetid and exquisitely tender may often be speedily cured by the topical and internal use of this drug. Make a wash of drs. 4 of fl. ext. in 8 ozs., of water and wet the ulcers with muslin slips dipped in this solution. Also give internally a half drachm per day of the fluid extract in divided doses in water.

Preparations and Doses.—Powdered Leaves and Flowering tops,
10 to 60 grs.
Fl. Ext., 10 to 60 mins.
Solid Ext., 3 to 15 grs.

GRINDELIA SQUARROSA.

Syn — *Ague Weed*. *Part used*. — *The Herb*.

N. O. — *Compositæ*.

Habitat. — *Western plains to Rocky Mountains, United States*.

Therapeutics. — It is also sedative to the nerves like *G. Robusta*. It is said to exert peculiar influence in *splenic enlargement due to malarial infection (ague cake)*. It is indicated in *malarial intermittent fevers*, enlargement of the liver and chronic rheumatic affections.

Preparations and Doses. — Powdered Herb, 15 to 30 grs.

Fl. Ext., 15 to 30 mins.

Solid Ext., 4 to 8 grs.

GUACHAMACHA.

Part used. — *The Extract or Milky Juice*.

N. O. — *Apocynaceæ*. *Habitat*. — *South America*.

Characters. — A South American tree related to the *Oleander*. The best and most simple preparation is an aqueous extract prepared on a water bath. It contains an alkaloid, soluble in water, but little soluble in absolute alcohol and insoluble in ether and chloroform. In these respects it resembles *Curare*; also by the fact that the active principle is almost completely precipitated by tannin. Most of the alkaloid exists in the bark and contiguous layers; some, however, also in the wood. The therapeutic effect differs much according to the season. During the rainy season, a copious supply of milky juice exudes from incisions made in the bark. The juice is the most active form.

Physiological actions. — From experiments performed by Schiffer on animals, the following results have been obtained: — The symptoms, varied in intensity by the dose, begin to show themselves after fifteen to eighteen minutes, and then follow each other rapidly. At first the animal becomes tired, hangs down its head, permits itself to be laid on the back, does not draw up the leg when touched, &c. In a few minutes it appears paralyzed as if by *Curare*, with this difference, however, that *respiration continues*. The circu-

lation and action of the heart are, of course, unchanged. If the dose was large, death ensues ; if moderate, recovery takes place after one or two days. Dr. Schiffer had, so far, made but few experiments of the remedy upon man ; a small dose injected in himself produced no abnormal effects. A hypodermic injection of 10 milligrams administered to a young man suffering from spasms (in Dr. Frerich's Clinic, at Berlin) remained without effect for three-quarters of an hour, but afterwards the patient fell into a deep sleep lasting three hours, (in day time), and then awoke without feeling the least untoward effects.

Therapeutical actions.—Dr. Schirffer believes that the remedy may be found valuable in *diseases involving an exaggerated action of the Motor apparatus*, as spasms, tetanus and epileptic attacks, and possibly also as a general hypnotic. So he says that in the extract of guachamacha we have found a substitute for *curare*, having all its properties without presenting any of its dangers.

GUACO.

Syn.—*Mikania Guaco.* *Part used.*—*The Leaves.*

N. O.—*Compositæ.*

Habitat.—*South America and West Indies.*

Therapeutics.—It has stimulant, bitter tonic, diaphoretic, diuretic, febrifuge and anthelmintic properties. It has long been employed by the natives of South America as a *preventive and cure for the bites of serpents and insects*. It is considered by them as anti-syphilitic, and a few years since attracted attention for its supposed prophylactic and remedial powers in epidemic cholera and chronic diarrhoea. It has some reputation in the treatment of *chronic rheumatism* both internally and externally, in intermittents and atonic deafness. It is recommended as a local application in gouty paroxysms.

Preparations and Doses.—Powdered Leaves, 30 to 60 grs.

Fl. Ext., 30 to 60 mins.

GUAIAACUM OFFICINALE.

Syn.—*Lignum Vitæ.*

Part used.—*The Heart-Wood and Resin.*

N. O.—*Zygophyllaceæ.*

Habitat.—*West Indies and South America.*

Therapeutics.—It possesses an alterative, antirheumatic, anti-syphilitic, diaphoretic and stimulant properties. It exerts some influence over the uterus. *It is a capital remedy for tonsillitis.* Given in half-drachm dose (tincture) every four hours, it appears to abate the inflammation and to cut short the disease in a remarkable manner. When taken internally, very little sensible effects result, unless the dose be so large as to irritate the stomach. It is much less stimulating than cantharides. It is pronounced useful in *amenorrhœa*, *dysmenorrhœa*, *chronic gout*, *lumbago* and *sciatica*, *gouty bronchitis*, *bronchitis of the aged* and *syphilis*. It is one of the best adjuvants in dentrifices, as it strengthens the gums.

Preparation and Doses.—Wood, in the form of decoction, $\frac{1}{2}$ to 1 oz.

Fl. Ext., 10 to 20 mins.

Tr. (1 of Resin to 5 of Sp. Ammon. Aro), 30 to 60 mins.

Resin, 10 to 30 grs.

GUARANA.

PAULLINIA SORBILIS.

Syn.—*Brazilian Cocoa, Pasta Guarana.*

Part used.—*The Seeds.*

N. O.—*Sapindaceæ.* *Habitat.*—*Brazil.*

Characters.—A dried paste prepared from the crushed or ground seeds, and occurring in the form of subglobular or elliptic cakes or cylindrical sticks, hard, dark reddish brown; fracture uneven, somewhat glossy, showing fragments of seeds invested with a black testa; odour slight, peculiar, resembling chocolate; taste astringent, bitter; partly soluble in water, and in alcohol.

Physiological actions.—The physiological effects of Paullinia are chiefly due to its alkaloid "*Guaranine*," and as this is identical with caffeine, its physiological action is more or less same as caffeine.

Therapeutical actions.—It has stimulant, diuretic, nervine, tonic and mildly astringent properties. The therapeutic indications are generally same as those for caffeine. The special use of guarana is in the treatment of *sick headache* or *migraine*, when there is no determination of blood to the brain. It is adapted to the so called nervous form of sick headache, and is less efficient when the attacks are due to stomachic troubles. According to German authority guarana is contra-indicated in that form of headache which is chronic, because it increases arterial tension by excitement of the heart, and elevates the temperature by exaggerated oxidation. Even after its use in neuralgic headache, phenomena of its poisonous action may be observed from the appearance of a *malaise* more distressing than the headache which has disappeared under its remedial agency. A certain patient, suffering from a facial paralysis due to a central lesion, took, guarana, with the effect of producing redness of the face, staring eyes, slight irregularity of the pulse, moisture of the skin, delirium, dullness of hearing, and vesical and intestinal spasms. Dysuria is a frequent phenomenon. As it possesses directly or indirectly, restorative powers, it may be employed to promote constructive metamorphosis; and hence may be given with advantage in the convalescence from acute maladies, incipient phthisis and in wasting diseases generally. From its astringency the remedy is useful in *chronic diarrhœa*, and particularly in the *diarrhœa of phthisis and dysentery*. It is also indicated in neuralgia, asthma, gastric irritability, &c.

Preparation and Doses.—Powdered seeds 10 to 30 or 60 grs.

Elixir Guarana, B. P. C., $\frac{1}{2}$ to 2 fl. drs.

Fl. Ext., 10 to 30 mins.

Tr. (1 to 4 Rect. Sp.), $\frac{1}{2}$ to 2 fl. drs.

Guaranine (alkaloid), $\frac{1}{2}$ to 5 grs.

GURJUN BALSAM.

Syn.—Gurjun oil ; wood oil ; *oleum dipterocarpi*.

Part employed.—The Oleoresin. *N. O.*—*Dipterocarpaceæ*.

Habitat.—East Indies and Phillipine Islands.

Characters and Tests.—A balsamic exudation obtained by incision and the application of heat from the trunk of *Dipterocarpus turbinatus*, Gaertn, and other allied species growing in the East Indies. It is a transparent liquid of the consistence of olive oil, of an opaque, dingy, greenish-grey colour, as seen by reflected light, and having an aromatic odour and taste not unlike that of copaiba, but without its acidity. In fact it is not so repugnant and nauseous like copaiba.

Therapeutics.—It has all the advantages of copaiba as an expectorant, without the grave disadvantage of exciting an eruption. Two drachms of the balsam to an ounce of the malt extract—three times a day, was employed in cases of *chronic bronchitis* and it acted admirably as an expectorant, “clearing the chest and easing the cough. In several cases, *tr. of jaborandi* or *nitrate of pilocarpine* was given in addition at bedtime so as to produce profuse sweating, but no eruption resulted (Drs. W. Murrel & C. Fox). It is recommended by some authorities as a substitute for balsam of copaiba, in its several other indications, besides one just mentioned. Many reports of its successful employment in the treatment of *gonorrhœa*, *gleet*, and other diseases of the mucous passages, *leprosy* and certain skin diseases, are reported. It has been used with success in the hospitals of Paris. The following is the formula used by Dr. Vidal in the St. Louis hospital :

R Gurjun balsam dr. 1, Gum Arabic dr. 1, Inf. of Star Anise
drs. 10. Make an emulsion. To be divided into two
doses and taken immediately before meals.

Externally the oil is applied in the treatment of skin diseases in the form of an emulsion made with three parts of lime water to one of the oil, with which the affected parts are rubbed diligently twice a day, and each time for the space of two hours.

Dose.—20 to 60 mins., as an alterative ; $\frac{1}{2}$ to 2 fl. drs. as an expectorant.

GYMNEMA SYLVESTRE. GYMNEMIC ACID.

Syn.—Kavali, Wakandi (Mah. & Bom.); Merasingi (Hind.); Meshashringi (Sans.); Parapatraha (Duk.); Shiru-Kurunja (Tam.)

Part used.—The Acid principle, Leaves and Root.

N. O.—*Asclepiadaceæ*.

Habitat.—East Africa and East Indies adjacent to Bombay; abundant on the Ghauts and in the Goa territory.

Characters, and Chemical Composition.—A shrubby climbing plant abounding in milky juice; leaves 4 to 5 inches long, ovate-lanceolate, shining and dark green on the upper surface, and pale green below, shortly pubescent; taste saltish and acrid. The root is about the size of the little finger, and resembles in appearance to that of Hemidesmus. The wood is tough and the bark reddish brown in colour and spongy; taste acrid and saltish. The leaves contain an organic acid, *Gymnemic Acid*, to the extent of 6 per cent. It resembles chrysophanic acid in appearance. It is extracted from the leaves by water and precipitated by sulphuric acid. The bark is made up of thin-walled parenchyma, consisting of starch and good deal of crystalline concretions, &c.

Therapeutical properties.—The most curious property of the plant is its effect upon the sense of taste. The leaves have the singular property when chewed of destroying the power of tasting sugar for 24 hours, without in any other way interfering with the sense of taste. In ginger-bread the taste of sugar disappears and that of ginger alone is detected. A sweet orange tastes like a lime. Sulphate of quinine tastes like so much chalk. The effect lasts for several hours. It does not affect the power of tasting sour, saline or astringent substances. This peculiar property is possessed by gymnemic acid present in the plant as just said and for this very reason this Indian plant has been recently added to our new materia medica. The taste of all saccharine liquids is therefore destroyed by gymnemic acid.

The powdered root has for a long time been used by the Hindoos for snake and insect bites, the powdered root being applied to

the part bitten, and the decoction taken internally. It is said to have similar properties to Ipecac.

HAMAMELIS VIRGINICA.

Syn.—*Witch-Hazel, Winter-bloom, Spotted Alder, &c.*

Parts used.—*The Bark, and Leaves.*

N. O.—*Hamamelaceæ.*

Habitat.—*United States.*

Characters and Chemical Composition.—Short petiolate leaves, about four inches long, obovate or ovate, slightly heart-shaped and oblique at the base, sinuate-toothed, nearly smooth, inodorous when dry; when fresh they have a certain degree of fragrance, with a somewhat bitter and astringent taste at first, and a pungent sweetish permanent after taste, when chewed in the mouth. The bark occurs in thin narrow pieces, of about half the thickness of the cinnamon bark, one-third to half-an-inch broad, and of various lengths; of a pale red colour; inodorous; when fresh it is also somewhat fragrant and similar in taste to the fresh leaves. The chief constituents are a very slight amount of tannic acid and a volatile oil, &c. Water as well as alcohol extract their virtues.

History and Early Uses.—The bark is reported to have long been known to the American Indians as an excellent remedy in swellings and tumours of painful character as well as in external inflammations, applied in the form of a poultice. When the negro slaves endeavoured to procure abortion by means of *Cotton root*, miscarriage is said to have been prevented by hamamelis.

Therapeutical properties.—Both the bark and the leaves possess tonic, astringent, sedative, discutient and healing properties. Hamamelis is efficient for checking various forms of hemorrhages, and excessive mucous discharges from various organs of the body; also useful externally over swollen and inflamed parts, wounds, abrasions, sprains, &c, each of these I describe in detail as follows:—

(1.) *Hæmoptysis, Hæmatemesis, &c.*—Dr. J. V. Shoemaker regards hamamelis as a powerful hæmostatic and astringent, and also slightly sedative and tonic, stimulating appetite and improving digestion. It is a remedy *par excellence* in all forms of gastric hemor-

rhage and in diseases due to a relaxed condition of the nerves and capillary walls. It is also serviceable in various forms of active hemorrhages as an adjuvant to any of the cardiac sedatives. It will be found promptly curative in cases of *hæmoptysis* in which the attacks are prolonged, and hemorrhages are small in quantity, indicative of continuous oozing rather than of a capillary or arterial rupture. In cases of continuous and copious hemorrhage, attended by a full and frequent pulse hamamelis will only be effective when combined with full doses of aconite, veratrum viride or other cardiac depressants. According to Drs. Jones and N. S. Davis, a strong decoction of equal parts of *hamamelis bark* and *hydrastis canadensis* root, with a weak one of *lobelia* leaves, is highly useful internally, in hemorrhages from the lungs and stomach.

(2.) *Menorrhagia and Metrorrhagia*.—Hamamelis will act like magic in checking menorrhagia after quinine, ergot, gossypium, cimicifuga and mineral acids have failed. It is not serviceable in restraining hemorrhage due to polypi and other abnormal growths. It is most effective in *anæmic patients and subjects of lymphatic diathesis* in whom the sanguinolent flow is due to relaxation of muscular coat of uterine vessels. It is also potent in checking bleeding which in some women continue without any assignable cause, for several weeks after parturition.

(3.) *Epistaxis*.—It is most effective in epistaxis. If the pulse be rapid and bounding and the nervous system be in a state of excitement, hamamelis will not restrain the flow. In such cases Dr. Shoemaker orders, one drachm every hour, of a mixture of Tr. Veratrum Vir. $\text{ms. } 12$, Morphine gr. i., and Ext. Ham fl. oz. 1. If pulse is usual and patient be free from alarm, the simple ext. ham. fl. in one drachm doses every hour for 3 or 4 hours is usually sufficient. In chronic cases where the bleeding is minute but persistent the continuous passage of a solution will act like a charm. In all cases ice water should be freely applied to the top of the head and nape of the neck during the continuance of bleeding.

(4.) It has been found useful in two cases of *hæmophilia* and in a case of *hæmatoides*. Dr. Ringer has known it to arrest *hæmaturia* in four cases which had resisted many other remedies. It is useful in *purpura*.

(5.) *Intestinal Hemorrhages and Affections*.—It is useful in chronic intestinal hemorrhages in persons of sedentary habits, and in inflammation of the bowels; and in subacute and chronic diarrhœas, characterized by frequent painless watery or mucous discharges; here its efficacy is enhanced by the addition of opium and *nux vomica*. Also useful in dysentery.

(6.) *Varicose Veins and Ulcers*.—In varicose veins apply firm cotton bandage and give dr. 1 of ext. ham. fl.; in varicose ulcers touch the ulcerated surface twice daily with a lotion composed of 2 drops of nitric acid and 4 ozs. of water; then firmly bandage the affected limb and give dr. 1 of fl. ext. 4 times a day.

(7.) *Hemorrhoids*.—Very useful in painful and bleeding hemorrhoids; in these class of cases it should be given internally in decided doses and applied externally in form of 20 per cent. ointment or lotion. Still better a decoction of *white oak-bark*, *apple-tree bark* and *witch-hazel bark* has been found a valuable application to piles. Very recently, an ointment, prepared with tr. hamamelis oz. $1\frac{1}{2}$, lanolin ozs. 6, and vaseline (alb.) sufficient to make up one pound, has been found successful. Hamamelis is highly beneficial both to check bleeding and cure the diseased veins in piles, and Dr. Ringer has found it singularly successful and prompt in arresting this form of bleeding, even when excessive and amounting to half a pint a day, repeated almost daily for months or years. It should be employed either as a lotion or injection in piles, as well as taken by the mouth. With the above treatment laxatives should be given in all cases, in addition, to keep the bowels freely open until the cure is effected.

(8.) *Gonorrhœa and Leucorrhœa*.—It is an efficient remedy in the treatment of leucorrhœa and chronic gonorrhœa, if given internally in doses of 20 or 30 mins. ter die and also injected diluted with 1 part of fl. ext. to 20 parts of water; instead of the fl. ext., the bark may be employed as a decoction in the strength of 1 to 20.

(9.) *Conjunctivitis*.—Dr. King states that he has used a decoction of equal parts of *witch-hazel*, *golden seal root* (*hydrastis canadensis*) and *lobelia leaves*, a strong decoction made from the first two, and then a weak one of the *lobelia leaves* added, as a lotion in *ophthalmia* with such success that he has succeeded in curing even the most obstinate and

long standing cases. This fact has been confirmed by other practitioners. This decoction was also highly recommended by Drs. Jones Fountain and N. S. Davis in *hemorrhage of the lungs and stomach.*

(10.) *Affections of the Nose, Mouth and Throat.*—It is one of the best agents that can be used in catarrh of the nose and throat. Snuffing the solution (1 to 20) into the nostrils, in catarrh, or as inhalation, gives satisfaction; also in cases of ozæna or ulceration the same solution is useful. As a gargle or topical application the decoction or infusion is very beneficial in aphthæ, stomatitis, mercurial salivation, tender, spongy and bleeding gums due to scurvy or other causes, and sore mouth generally. For the “*red gum*” of infants nothing better is known. Hamamelis often assuages the pain of toothache, if some of it is held in the mouth. It is similarly efficient as a gargle or as steam inhalations in naso-pharyngeal catarrh, chronic pharyngitis, ulcerative and diphtheritic sore throat and all relaxed conditions of pharynx and larynx.

(11.) *Affections of the skin.*—It has a clarifying, softening, and healing influence upon the skin, and is used extensively for sunburnt skin, freckles and other cutaneous discoloration, also in hyperhidrosis, acne rosacea, seborrhœa, impetigo, eczema, pruritus, &c.

(12.) *Various other external uses.*—Hamamelis is anodyne and stops the burning and soreness of bruises or sprains, contusions or strains. Applied to the irritable and swollen rheumatic joints, and over inflamed and swollen parts, erysipelas and burns &c., it brings on relief from pain. It is equally efficient in stiffness, soreness, abrasions, incised and lacerated wounds, chapped hands and cracked nipples, &c. Prof. Stille states that he has known the decoction or infusion to be used as a lotion, with apparent benefit in *crusta lactea.*

Preparations and Doses.—Fl. Ext., $\frac{1}{2}$ to 2 fl. drs.

Solid Ext., 3 to 10 grs.

Tr. (1 to 10 Pf. Sp.), 5 to 60 mins.

Decoct.—For external use—(1 of Fl.

Ext. to 20 of water or 1 of bark
boiled down with 20 of water.)

HAMAMELIN OR HAMAMELIDIN.

It is the powdered extractive, from the above, of a purplish brown colour. One gr. in a suppository with cocoa butter is useful in curing piles. Indicated in similar cases as the above.

Dose.— $\frac{1}{2}$ to 3 grs. in pill with mucilage of acacia.

HAZELINE.

Characters.—This is the volatile active principles distilled from the fresh green twigs of *Hamamelis Virginica*. Is a pleasant, clear, slightly sweetish and fragrant liquid.

Properties and Uses.—It is anodyne, sedative, cooling, antiseptic, astringent and styptic. It is indicated in the same class of cases, in which hamamelis has been used, both externally and internally.

(a.) For cold in the head, ozæna, or ulceration, snuff up the nostrils with an equal part of tepid water, or inhale it by steam or spray.

(b.) In purulent ophthalmia or inflammation of the eyes, it may be diluted with an equal part of warm water, and applied by means of absorbent cotton.

(c.) In aphthæ, stomatitis, ulcerative and diphtheritic sore throat, tender gums, tooth-ache and bleeding sockets, the way to employ it, is as a gargle or steam inhalation.

(d.) It may be employed in full strength for bruises, sprains, strains, soreness, lameness, stiffness, and chronic rheumatism.

(e.) For the pain of piles, burns, erysipelas, eczema, and for varicose veins, wounds and sores, absorbent cotton may be laid over the part and kept saturated with hazeline.

(f.) Two tablespoonfuls (diluted with an equal part of tepid water) may be injected into the rectum for internal piles, and a teaspoonful taken by the mouth three times a day.

(g.) For hemorrhage from the nose, lungs, stomach, bowels, kidney, or uterus, from 1 to 3 teaspoonfuls every hour may be taken until it stops, and three times daily for a while afterwards.

(h.) For diarrhœa, dysentery and inflammation of the bowels, it may be sprinkled on flannels wrung out of hot water, and applied to the abdomen; give also 30 drops in water *ter die*.

HELENIUM.**INULA HELENIUM.**

Syn.—*Elecampane.*

Part used.—*The Root.* *N. O.*—*Compositæ.*

Habitat.—*Europe and United States.*

Characters.—In transverse concave slices or longitudinal sections, wrinkled and brown externally; flexible in damp weather; internally grayish, fleshy, slightly radiate and dotted with numerous shining, yellowish-brown resin cells; odor peculiar, aromatic; taste bitter and pungent. Its chief virtues are due to a stereoptene, *helenina*.

Therapeutical properties.—It is stimulant, tonic, diuretic, diaphoretic, stomachic and expectorant. It attenuates *viscid phlegm*, relieves *hemoral coughs and asthma*, excites urine and insensible perspiration; gently loosens the bowels, and gives tone to the stomach, and strengthens the system generally. Externally it is used on itch, herpes and tetter.

Preparations and Doses.—Powdered Root, 20 to 60 grs.

Decoct. (1 to 40), $\frac{15}{2}$ to 2 Fl. ozs.

Fl. Ext., 30 to 60 mins.

Inulin (concentration), 2 to 5 grs.

HELENIN.

Characters.—A stereoptene obtained from the root of *Inula Helenium* or *Elecampane*. It occurs in white crystals, insoluble in water, but freely soluble in alcohol.

Therapeutical properties.—It possesses powerfully antiseptic, aromatic stimulant, tonic, diaphoretic, diuretic, stimulant, tonic, diaphoretic, diuretic and expectorant properties.

(1.) *Antiseptic, Germicide, &c.*—One part of helenin in 10000 parts of urine was sufficient to arrest putrefaction in urine. Several experiments were made with flesh, eggs, &c., and they were kept without putrefaction for some days. Similar experiments were made with carbolic acid, boric acid, and salicylic acid, instead of *helenina*, but much larger proportions of these drugs were required to prevent

putrefaction of the eggs, as helenina had done. While the writer was working with helenina in his laboratory, he noticed that the *bad odours* usually present in the vicinity *were replaced by aromatic smell* of the drug due to the washings thrown away. Also *insects*, which were commonly very numerous at that time, were *absent*. Even the mosquitoes were kept away from the whole house during the months in which they especially abound. The drug has proved most valuable in *surgery as an antiseptic* when carbolic acid and other agents had failed, and is an excellent substitute for carbolic acid in the Listerian system of antiseptic surgery ; it is less irritating than carbolic acid.

(2.) *Tuberculosis*.—It has the *specific properties of destroying the tubercle bacillus* without injuring the tissues of the lungs or acting as a poison to other parts of the body. Animals to which it was given, did not die when inoculated with tubercle. It has *no injurious effect upon man* and after prolonged administration to phthisical patients tubercle bacilli disappeared from the sputa. It is beneficial in the *diarrhœa of the consumptives*.

(3.) It has been beneficially given internally in *malarial fevers, infantile and catarrhal diarrhœa, whooping cough, chronic bronchitis, asthma, and as a tonic to the digestive organs*.

(4.) Externally an oily solution has been found useful as a paint in *diphtheria* ; as a gargle in *ozœna*, and as an ointment in *itch, herpes, &c.*

(5.) *Clinical Observations and Reports*.—Case 1. In a case of *retained placenta* where carbolic acid injections had to be stopped from intense irritation and pain produced and where by the fifth day *septicæmia* had set in, injections were commenced of 20 centigrammes (3 grs.) of *helenin* in 300 grammes of water. At the first injection the odor which was *horrible* disappeared. After two days of this treatment the placenta was spontaneously expelled and was found to be odourless, and in a few days the woman was convalescent. In these cases the proportion of *helenin* recommended is .6 per 1000 of water.

Case 2.—A case of *anthrax* which though treated with *quinine, charcoal, carbolic acid, and chlorine water*, was gradually invading the surrounding tissue, a fatal result being feared, immediately began to improve on the application of a solution of *helenine*.

Case 3.—A case of ozæna quickly improved by treatment with gargles and lozenges of *helenin* after chlorine had failed.

Case 4.—A case of *itch* in a child yielded rapidly to a lotion and embrocation of *helenin*.

Case 5.—A case of *intermittent fever*, which had lasted two months, though treated with hypodermic injections of quinine, and many other drugs besides ; was given 25 centigrammes of *helenin* combined with 1 gramme of *quinine* in 20 pills during each intermission, and was very shortly cured.

Dose.— $\frac{1}{3}$ to 2 grs.

HELLEBORUS NIGER.

Syn.—Black Hellebore (Eng.) ; Kali-Kútaki (Bom. and Hind.) ; Karu (Guj.) ; Kharabeka-hindi (Pers.) ; Kháratika (Arab.) ; Katu rohani (Sans.) ; Bálakadu (Mah.)

Part used.—The Rhizome. N. O.—Ranunculaceæ.

Habitat.—Shady woods of the lower mountains in many parts of Europe, and Nepaul.

Characters.—It is so called from the color of its roots. It flowers in winter, and on this account is sometimes called white Christmas rose. The rhizome occurs in small pieces, 1 to 3 inches long, of the thickness of a goose quill, slightly wrinkled and brownish dark in colour externally, and marked with alternate cicatrices, the vestiges of the former leaves ; inner surface black but there is a white broken ring between the centre and the outer surface ; odor heavy ; taste somewhat acrid and very bitter.

Therapeutical properties.—It possesses drastic hydragogue, cathartic and emmenagogue properties ; as a purgative it resembles more to *colocynth*. It is a *specific in jaundice* in conjunction with *hollarhena antidysenterica* and a *saline*, as *sulphate of magnesia*, &c. In small doses it acts as a bitter tonic, stomachic, and antiperiodic ; and is indicated in tertian ague, *bilious fevers*, *biliary derangements*, dyspepsia and *amenorrhœa*.

Preparations and Doses.—Powdered rhizome, 5 to 15 grs., as a stomachic and antiperiodic ; 20 to 30 grs., as a purgative.

Tr. (1 to 8 Pf. Sp.), 30 to 60 mins.

Fl. Ext., 5 to 20 mins.

Solid Ext., 1 to 4 grs.

HELLEBOREIN.

Properties and Uses.—A glucoside obtained from *Helleborus Niger* and *H. Viridis*. It has recently been recommended as a local anæsthetic, being considered more valuable than *cocaine* for ophthalmic purposes. That helleborein is equal to cocaine in producing *local anæsthesia of the conjunctiva and cornea*, and is to be preferred to it, for *operative purposes*, since its anæsthetic action is confined to the cornea, while the sensibility of other parts is unaffected. A very dilute solution of helleborein gives rise to anæsthesia of the cornea without any irritation and that the anæsthesia is of longer duration than that which has been evoked by cocaine ; a three or four drops of a one per cent. solution produce complete anæsthesia of cornea, lasting for half an hour, but may be continued for 24 hours or more by the addition of little *Erythrophlæine*. If cocaine be added the anæsthesia soon passes off almost immediately. Helleborein *does not* cause any alteration in any of the ocular tissues. It causes no alteration in the pupil or change in intra—and ocular pressure. It produces local anæsthesia at any point where it is injected. *Helleborein is very poisonous* and must be applied with caution, and owing to its *powerful action on the heart cannot be used hypodermically like cocaine*.

HOANG-NAN.

Syn.—*Strychnos Gaultheriana*, *Strychnos Malaccensis*.

Part used.—The Bark. N. O.—*Loganiaceæ*.

Habitat.—Tropical districts of Laos, Anam, and Tonquin.

Therapeutical properties.—It acts as a general tonic, and invigorates the nervous system and through it the muscular and glandular apparatus and strengthens the action of the heart. Its remedial effects are very similar to those of *nux vomica*.

(1.) *Alcoholism*.—It is useful in chronic alcoholism, to increase appetite and digestion, to remove the tremor and prostration which follow a debauch. In small doses it allays nausea due to alcoholism.

(2.) *Muscular and Nervine Tonic*.—In anæmia it may be usefully given with iron. It acts as a roborant; an exhausted state of the nervous system, flaccidity of the muscles, and general debility are remedied by it.

(3.) *Asthma*.—Administered in the intervals between the attacks of spasmodic asthma, it lessens severity and frequency by improving the innervation of the muscular coats of the bronchioles.

(4.) *Alterative*.—In old cases of *syphilis* attended by great general debility, it is often judicious to suspend the so called specific medication and rely for a time in constructive remedies, of which hoangnan is one. It is vaunted as a remedy in *malignant formations*. Its alterative properties have been demonstrated in *leprosy*, *syphilides*, *scrofulous sores*. Has a marked beneficial effect in *scrofulous manifestations*. *Tumefied glands* diminish in size and amelioration takes place in skin affections dependent upon *strumous taint*.

(5.) *Affections of the Hair and Skin*.—It has been given with good results in *seborrhœa* of the scalp; also in *alopecia*, benefiting the growth of the hair through its influence upon the circulation and secretion of the skin. In *hyperhidrosis* it checks morbid excess of perspiration. Good results have been obtained by its administration in *pustular eczema*, *acne*, *sycosis*, *furuncles*, and *carbuncles*.

(6.) Lastly it is useful in various forms of *paralysis (chronic)* and *torpor of the glandular organs*.

(7.) *Its Synergistics and Antagonistics*.—Its action is assisted by the same agents which act synergistically with *nux vomica*,—i. e., *belladonna*, *ergot* and *electricity*; on the other hand, *conium*, *opium* and *tobacco* are antagonistic.

(8.) *Toxicology*.—Physiological antidotes to its toxic action are *chloral*, *bromide*, *ether* and *chloroform*.

Preparations and Doses.—Powdered Bark, 1 to 5 grs.

Tr. (1 to 5 Pf. Sp.), 5 to 30 mins., freely diluted with water, and best given before meals.

HOLLARHENA ANTIDYSENTERICA.

WRIGHTIA ANTIDYSENTERICA.

Syn.—*The Bark* : *Conessi bark*, *Tellicherry bark* (Eng.); *Codaga pala*; *Corte de pala* (Fr.); *Kuda chhála*, *Kureya chhála* (Bom. and Hind.); *Kutaja* (Sans.). *The Seeds* : *Kadavá indrajaya*, *Kuda bija* (Hind and Bom.); *Kalinga*, *Indrayaya* (Sans.); *Inderjav* (Guj.); *Kháo Kurro* (Goa.); *Zabán-i-jangishk-i-talka* (Arab).

Part used.—*The Bark and Seeds.*

N. O.—*Apocynaceæ.*

Habitat.—*Sub-Himalayan tracts, Bengal, Central and Southern India.*

Characters.—The bark is thick, twisted and quilled, of a dirty white or buff color; marked externally by numerous transverse ridges; internally striate and pale brown; taste very bitter. The root-bark, is thinner than the stem bark, reddish-brown in color and studded with small warty prominences. The seeds which resemble in shape to oats, are about $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, of a light brown (cinnamon) color, linear, oblong, and channelled on one side throughout their lengths; internally whitish; taste bitter; odor, when powdered, slight and peculiar.

Therapeutical properties.—(1.) The bark is tonic, antiperiodic and febrifuge, and is used in fevers, diarrhœa and dysentery. The seeds possess valuable astringent, tonic, febrifuge, anthelmintic and carminative properties, and are beneficially employed in *dysentery*, *intestinal bleeding* due to hemorrhoids and other causes, *jaundice*, *worms*, and in combination with *cocculus cordifolius* or other antiperiodics in malarial fevers.

(2.) The seeds are a *never-failing specific*, in my hands, for *dysentery and hemorrhoidal flux*, and have also been well spoken by those who have employed them. I usually prescribe them as follows:—

R Powdered seeds dr. $\frac{1}{2}$, sugar candy dr. 1, cold water oz. 1; to be kept for a few hours and then strained with a thin muslin cloth; the result is a white mucilaginous bitter infusion, which is to be given twice or thrice a day to an adult; for children the dose is proportionate to

their age. If the infusion be prepared in large quantity, in the proportions mentioned, it will keep fresh for many days.

(3.) Another *specific property* of these seeds which I have found, is its efficacy in *jaundice*. My mode of administration in such cases, and after failure of so called other drugs, is :—

R Powdered seeds (*Inderjav*) dr. $\frac{1}{2}$, powdered root of *Helleborus Niger* (*Kali Kutki*) grs. 20, *Aquæ* ozs. 3 ; to be boiled or made into a decoction, and either Sulphate of Magnesia drs. 2—4 or Sulphate of Soda drs. 2—4 to be added when cool ; this decoction is to be given early in the morning, for three days at least, to patients suffering from jaundice depending on portal congestion, obstruction and inflammation of the gall-ducts, worms, cold, &c. With the above decoction you can give during the day a simple mixture (placebo) of *taraxacum* and ammon. chloride.

With these above described treatments I have succeeded in curing severe cases of dysentery and jaundice, who did not yield to usual remedies. Frequently I also give tr. *Chionanth. Virg.* besides, in jaundice.

(4.) The seeds are considered by the natives as aphrodisiac, tonic and lithontriptic, and are, along with the powdered bark, made into pessaries which are supposed to favour conception, and are used after delivery to give tone to the relaxed vaginal and uterine tissues.

Preparations and Doses.—Powdered Root-bark 2 to 5 or 10 grs.
 „ Seeds 10 to 60 grs.

HOMATROPINÆ HYDROBROMAS.

Properties and Uses.—It is atropine, purified by decomposition and recombination, and associated with the hydrobromic radicle. It is devoid of irritating and toxic properties of *atropine*, and is a quick local *mydriatic*. A two per cent. solution is said to quickly dilate the pupil, which regains the normal size within twenty-four hours. Under its use, cough, expectoration and insomnia are relieved, but in general diseases it is not so useful as atropine. It is also recommended for checking the night sweats of phthisis, and as an immediate and certain antidote to *Pilocarpine*.

Preparation and Doses.—Homatropinæ Hydrobromas, 1/120 to 1/20 gr.

Inj. Homatrop. Hypod.—Strength, 1 in 120. Dose.—1 to 6 mins. hypod.

Average dose 1/250 gr.

HYDRANGÆA ARBORESCENS.

Syn.—Wild Hydrangea, Seven Barks.

Part used.—The Root.

N. O.—Saxifragaceæ.

Habitat.—United States.

Therapeutics.—It is tonic, sialagogue diuretic, stomachic and lithontriptic. It has been largely used in America in the treatment of calculous affections and abnormal conditions of the kidneys. It is indicated in cases of chronic gleet, prostatitis, bladder irritation, gravel, and to increase the flow of urine either in retention or suppression. A combination of hydrangea, benzoic acid and salicylate of lithia has been regarded by the American physicians generally, as the best and most soothing alterative and anti-lithic agent, in the treatment of urinary calculus, diabetes, gout, cystitis, rheumatism, hæmaturia, Bright's disease, and vesical irritations generally.

Preparations and Doses.—Powdered Root, 20 to 60 grs.

Fl. Ext., 10 to 30 mins.

HYDRARGYRI CARBOLAS.

Properties and Uses.—A neutral salt in the form of a white amorphous powder, prepared by the double decomposition of mercuric chloride and a solution of carbolic acid in caustic potash. It has been found to act very efficaciously in *syphilis*, without producing any gastric disturbance.

Dose.— $\frac{1}{2}$ to 2 grs. in pills, after food.

HYDRARGYRUM C. CRETA.

Syn.—Grey Powder, Mercury with Chalk.

Properties and Uses.— $\frac{1}{3}$ gr. of hydrarg cum. creta is useful in many forms of dyspepsia, and *infantile diarrhœa* accompanied by vomit-

ing and passing of watery *offensive motions*. $\frac{1}{6}$ gr. given hourly is useful in *infantile cholera* characterized by incessant sickness with profuse and very offensive and almost continuous diarrhoea, watery, colorless or of a dirty muddy aspect. The same dose is useful in *tonsillitis*, when the fever has subsided but the tonsils have not reached their former size and condition.

HYDRARGYRUM C. CRETA SACCHARATUM.

Grey powder or Mercury with Chalk is a very favourite remedy with some persons in England for the treatment of the diseases of children, but in India it has been seldom used of late years, on account of its often disagreeing with patients, and producing violent vomiting and purging. As long ago as 1866 I was consulted by the civil surgeon of Gurdaspur, respecting a specimen of this drug which had been given to a young child, and which had caused severe vomiting and great exhaustion. On examination of the grey powder, which had a suspicious yellowish-red colour, it was found that the greater part of the Mercury in it had passed into the state of peroxide or red oxide. Subsequently other specimens were obtained and examined, and it was found that mercuric oxide existed in all the specimens which had been prepared or remained in India over one year. An examination was then made into other preparations of Mercury, such as Blue Pill, Mercurial Ointment and Mercurial Plaster, but none of these were found to contain any peroxide.

The investigation was afterwards taken up by Dr. F. Macnamara, Chemical Examiner in Calcutta, who found that various specimens of Hydrargyrum cum Creta contained an amount of peroxide of mercury which averaged 17 per cent., and in one amounted to 27 per cent., but that none was contained in a freshly prepared specimen. He states that if a child were to take four grains of the decomposed hydrargyrum cum creta, there would be two-thirds of a grain of red oxide of mercury in it, and that this is a powerful irritant, the maximum dose of which for an adult is one grain only. The same change has been observed by Dr. A. S. Taylor to have taken place in some specimens of grey powder which he examined

in England. In one case, out of 37·5 grains of mercury, 22·25 grains were found to be in the condition of red oxide of mercury, and only 4·25 in the state of black oxide, so that even in England there is a risk of a similar change in this preparation, but there is no doubt that the alteration occurs in a shorter time in the hot temperature of India, perhaps aided by the more brilliant light here.

To remedy this deterioration, I have recommended the Government of India to add white sugar in equal weight to the Hydrargyrum c. Creta of the Pharmacopœia, thus making a new preparation called the Hydrargyrum c. Creta Saccharatum, and this has been found to prevent the excessive oxidation. The use of sugar for this purpose has long been known, and the Ferri Carbonas Saccharata is a preparation in which it is so employed. It is possible that the sugar acts by its greater affinity for oxygen. Of course such a preparation must be used in double doses, but the dose is not large, and the sugar both renders the taste more agreeable and the heavy powder more easily suspended in liquids. (T. E. B. Brown, M.D., Lond., Lahore.)

HYDRARGYRI FORMAMIDIS.

Prof. Zeissel, of the Vienna Hospital, after trying this salt in fifteen cases of syphilis, reports that he has been well satisfied with the results. A 1 per cent. solution is also used for subcutaneous injection.

Dose.—1/16 to $\frac{1}{8}$ gr.

HYDRARGYRI IODIC.

Syn.—*Iodic-Hydrarg.* ; *Mercuric Sodid Iodide.*

Properties and Uses.—It is *germicide*, *antifermentative*, *cholagogue*, *emmenagogue* and *diuretic*. The germicidal power of Biniodide of Mercury has been demonstrated by Dr. Woodhead, and its use in Medicine and Surgery shown by Dr. Illingworth, who was the first to advocate its employment in scarlet fever and diphtheria. As a solvent for the Biniodide Dr. Illingworth recommends Sodium Iodide.

This new antiseptic and germicide, now extensively employed in the St. Mary's, North West London and other Hospitals, is possessed of double the bactericidal power of corrosive sublimate, while it is less poisonous. Micrococci and bacilli in active growth without spores are soon killed by solutions of 1 in 40,000. Solutions of 1 in 2,000 will rapidly destroy the spores of bacillus anthracis and bacillus subtilus. The use of Iodic-Hydrarg. is especially adapted for midwifery practice. A solution of one part in 1,500 of water may be safely employed in obstetric and gynæcological practice for washing out the vagina. A solution of corrosive sublimate of the same strength is highly dangerous, and has in several cases caused death.

1/50 gr. of biniodide of mercury dissolved with iodide of potassium or sodium, with 1 gr. of chloral hydrate is *specific in infantile diarrhœas*. It combines with, and renders soluble, milk ptomaine (*tyrotoxin*). In 80 cases of acute infantile diarrhœa thus treated, diarrhœa ceased within 2 days in 72 cases, in 5 of remaining 8 cases it ceased in 4 days, and in no case did it last over 7 days.

HYDRARGYRI OLEATUM.

Syn.—*Oleate of Mercury.*

Preparation.—To the oleic acid kept stirred in a mortar add gradually the oxide of mercury, and triturate occasionally until it is all dissolved.

Properties and Uses.—It is a commonly used 10 per cent. oleate, but can be prepared of all strengths from 5 to 20 per cent. It is beneficially employed in persistent inflammations of various parts of the body, and more particularly of the glands; in syphilitic affections of the bones, periosteum, &c., it is an excellent application. It acts as a parasiticide in pediculi, and in ringworm it has a destructive action on the fungus. It is also employed upon open blistered surface, when we want to cause absorption of mercury into inflamed or diseased parts over which the blister has been applied.

N.B.—In applying over the open blistered surface it should be diluted with vaseline, otherwise it causes irritation and the case should frequently be watched for mercurialism. In applying it over other parts, as little friction as possible should be used, as this causes cutaneous irritation. As a rule it does not salivate unless applied in excess quantity and especially over open blisters.

HYDRARGYRUM OLEATUM CUM MORPHINA.

Properties and Uses.—It contains one grain pure morphine in one drachm of the simple oleate. It is serviceable when the affected part is painful and tender and when the application of the simple oleate causes pain.

HYDRARGYRUM OXIDUM FLAVUM.

Syn.—*Yellow Oxide of Mercury.*

Therapeutical Properties.—The pathological conditions of the alimentary tract caused by invasion of Micro-organisms may manifest themselves as independent diseases, as, for instance, catarrh of the stomach or intestines, typhus and typhoid fever, dysentery, cholera, &c. All these disorders, though differing in degree, according to the nature of the invaders, form after all, only one kind of disorder, a septic state, called *dyspepsia septica*. In this state, yellow oxide of mercury is very effective in doses of 1/200 gr. It also acts as a prophylactic against these disorders.

Dr. Achilles Rose reports gratifying results in the treatment by antiseptics of various affections of the gastro-intestinal tract; he finds explanation of the action of the mineral acids, and of salts of bismuth, silver, zinc, &c., in the antiseptic action of these remedies, and is disposed to regard mercury, from its acknowledged superiority to all other agents in this respect, as pre-eminently the remedy in all these affections, and clinical experience seems to sustain his views. Yellow oxide of mercury is a powerful antiseptic, preventing the putrefactive changes which often take place in ingested food, and thus indirectly promoting nutrition, restoring appetite, and removing dyspeptic symptoms. Useful in all acute

or chronic derangements of the alimentary tract, in typhoid fever, phthisis, convalescence from surgical diseases, and where the functions of the liver are deranged.

Dr. Ludwig Schaffer, surgeon on board an Austrian man-of-war, with a crew of two hundred and seventy-eight men, traversing the tropics twice within six months, had opportunity to study the influences of high temperature combined with moist atmosphere, which manifested themselves in loss of appetite and derangement of digestion, sometimes with serious complications. All these cases thus affected improved and were cured by the use of hydrargyrum alone. After this favorable result Dr. Schaffer did not wait until derangements of digestion and nutrition assumed a serious extent and obliged those affected to report for the sick list; but he held weekly sanitary inspections of the crew, and gave in more than fifty cases, as a prophylactic measure, generally one, and in rare cases two, centigrammes of hydrargyrum oxydatum flavum. The daily dose was about from one to two milligrammes. The effects in these cases also were uniformly good; appetite and the digestive functions soon improved in a marked manner; many expressed themselves decidedly as having a good, even a ravenous appetite. Within two or three weeks most of the men treated thus looked extremely well-nourished, and had good color. This all happened under circumstances not favorable to such rapid improvement of nutrition. Ill effects from the administration of these doses of this form of mercury (it was given in over two hundred cases) were not observed in a single instance, not even where, as in cases of severe forms of angina, exceptionally, four to ten centigrammes were given in a few days. Dr. Schaffer recommends the dose of one to two milligrammes, to which are added one or two grammes of sugar respectively, as a constituent, to be taken daily after a meal consisting of milk, eggs, or similar nitrogenized food, in all acute or chronic derangements of the alimentary tract, in typhoid fever, during the reconvalence from surgical diseases, in phthisis, and in all cases where nutrition is impaired from any cause. He had occasion to observe a case of severe relapse after dysentery, with abscesses of the liver, in which the final recovery was seriously

in question on account of the loss of appetite. The whole list of the stomachic remedies had been tried in vain, until finally the yellow powder caused a return of the appetite and brought about unmistakably decided improvement, a change for the better in the whole pathological process. Thus, in many cases everything is gained for the patient, if only digestion be improved. According to Schaffer, much can be accomplished with one, two or three centigrammes of hyd. oxyd. to be given during two or three weeks, and in some instances within a short period. Rarely will it be necessary to increase the dose.

HYDRARGYRI PERCHLORIDUM.

Syn.—Corrosive Sublimate.

As regards this drug I mean to give some of its recent therapeutical and practical uses :—

(1.) *Anæmia and Chlorosis.*—Hydrargyri perchloridum is a tonic and curative agent in most forms of anæmia. This drug exerts its influence for good in patients where syphilis is no factor in the case. Small quantities of mercury, cause absorption of deposits of lymph anywhere in the system, probably by its stimulation of the glandular system, or by relieving the glandular structures of certain morbid embarrassments to action. This power of the metal to cause lymph absorption, and its influence in relieving glandular engorgement, whether of the great glands, as the liver, kidneys, &c., or of the lymphatic system, *indicate it as an agent in nine cases out of ten cases of anæmia.* The bichloride in combination with hydrochloric acid, has its tonic effect greatly increased. It is to be given in as small doses as 1/64 gr., well diluted, on a full stomach. *In the anæmia of females, the subjects of uterine disease, no constitutional remedy equals this drug.* Nearly all of these cases are suffering from lymph deposits and ovarian congestion, which is best met by an agent which so decidedly facilitates healthy gland action. In the *chlorosis* which is so often a manifestation of struma, the bichloride of mercury with iron will often effect a cure where iron alone fails.

(2.) *Diarrhœa, Dysentery, &c.*—(a.) Hydrargyri perchloridum administered in doses of 1/100 gr. every fifteen minutes for the first hour and then hourly for five or six hours, is useful in many forms of diarrhœa, characterized by *slimy offensive stools* mixed with blood. (b.) *Chronic diarrhœa of adults, independent of serious organic change of intestines, with pale watery stools, often* yield to hydrarg. perchl. administered in doses of 1/100 gr. every 2 or 3 hours. (c.) It is extremely useful in *hill or tropical diarrhœa*, characterized by whitish or slate-coloured stools of a gruel like consistency, deficient in bile and accompanied by flatulent dyspepsia indicating a functional derangement of the liver; the *great liability of the diarrhœa to relapse* is the feature of the disease and here perchloride acts as an antiseptic and cholagogue; and thus checks such forms of diarrhœa. (d.) It has been successfully employed in acute forms of dysentery and diarrhœa in the following combination :—

R. Liq. Hydrarg. Perchl. ms. 30, Tr. Cannab. Ind. ms. 10, Mucil. Tragac. ad oz. i. M. To be given every 2 or 3 hours.

(3.) *Gynæcology.*—It is a powerful *germicide* and is especially useful as such in *obstetric practice*. A solution of one grain in 2000—4000 of water is the softest one for washing out the *vaginal and uterine cavities*; and as a *general antiseptic* for midwifery practice, various strengths varying from 1 to 500—1000 have been employed. But it has recently been superseded by hydrargyri iodidum rubrum, which has all the advantages of corr. subl. without the injurious effects of the latter, (vide Hydrarg. Iodic.)

(4.) *Carbuncles, Anthrax, &c.*—When required to produce a local caustic action, as in carbuncles and anthrax, an alcoholic solution (1 to 5) is preferable. 20 to 80 mins. of a 10 per cent. solution is injected near the part affected with *Elephantiasis Grecorum*.

(5.) *Diphtheria.*—(a.) It is very effective in cases of diphtheria as follows : R Liq. Hydrarg. Perchl. drs. 2, Sod. Iodidi grs. 15, Syr. drs. 4, Aquæ ad ozs. 2. M. One teaspoonful to be given every hour until the temperature is reduced to normal and whole of the false membrane has disappeared, when remedies such as iron, acids,

pot. chloras., &c., may be given to complete the cure. If this treatment be adopted there will arise *no necessity for tracheotomy whether early or late.* (Dr. C. Illingworth.). (b.) R Hydrarg. Perchl. gr. 1, Vin. Pepsinæ, Aquæ, â â ozs. 2. M. A teaspoonful every one, two, three, or four, hours, according to the age and severity of the case. (Prof. A. J. Skene. M.D.).

Hypod Dose.— $\frac{1}{60}$ to $\frac{1}{30}$ gr.

HYDRARGYRI SALICYLAS.

A white powder, slightly soluble in water; useful for internal administration in cases of syphilis, and externally as a dusting powder for chancres.

Dose.— $\frac{1}{4}$ gr.

HYDRARGYRI SUBCHLORIDUM.

Syn.—*Calomel.*

Therapeutical properties.—(1.) Calomel acts as a cathartic, alterative, cholagogue, diuretic, antemetic, and antiseptic. Relieves congested mucous membrane and allays vomiting. In *cholera infantum* calomel is best to be given, along with stimulants and hot or cold enemas. It is also very useful for intestinal worms and pleurisy. In *pneumonias* of children where there is danger from *œdema of the lungs* or suffocation from accumulated mucus calomel gives relief by its diuretic and absorbent powers. It is useful in *diphtheria*.

It is useful in cases characterized by peevishness, fretfulness and anorexia.

(2.) *Diarrhœa.*—In diarrhœas of overfeeding, improper feeding, dentition and other nervous influences, atmospheric disturbances and changes of temperature and whatever the cause of diarrhœa be, the first thing to happen is an arrest of, or interference with, digestion. Food then acts as a mechanical irritant, or ptomaines or poisonous gases are produced, and diarrhœa results. Here calomel given in $\frac{1}{6}$ gr. doses and combined with sodæ bicarb. and sugar and repeated every half hour until $\frac{1}{2}$ gr. or 1 gr. according to

the age of the child is administered, will in most cases relieve symptoms. After the bowels have been moved several times as an effect of medicine, give Dover's powder, every 2 hours, in doses of $\frac{1}{5}$ to $\frac{1}{2}$ gr.

(3.) *Dropsy*.—Recently calomel in large doses has been recommended in cases of dropsy. But the mode of treatment has not been much in vogue. The reason for this lies in the fact that calomel is to be administered in such large doses as to produce stomatitis, which must be treated by astringent gargles, and to cause diarrhœa, rendering opium necessary. It is perhaps, a question whether such severe effects do not counterbalance the diminution of the dropsy. It is not to be denied however that in some cases, especially of cardiac dropsy, in which calomel is well borne, the mode of treatment is decidedly beneficial, as will be found from the following general conclusions arrived at, after the investigation, by R. Stenzing: (1.) It is a more powerful diuretic than any other drug. (2.) Its action is best seen in cardiac dropsy, that from other causes being less amenable to treatment. (3.) In combined renal and cardiac disease it acts as the latter predominates. (4.) In pleurisy and pericarditis it has no action or only an insufficient one. (5.) Mercurialism is not produced when diuresis has been fairly established. (6.) It is a more powerful diuretic than digitalis, but not a cardiac tonic. A combination of two drugs is therefore recommended for cardiac dropsy.

CALOMEL TRITURATES.

Mode of Preparation.—Calomel along with sugar of milk is thoroughly triturated for a period of two or more hours, which renders calomel to a very fine powder; as regards the proportion of both to be taken, it is convenient to take 10 grs. of calomel to 100 grs. of sugar of milk, so that 1 gr. of the *triturate powder* will represent or contain $\frac{1}{10}$ gr. of calomel; according to these proportions any amount can be prepared.

Properties and Uses.—Prepared in this way it is far more active than when prepared in the usual way in the form of a pill. $\frac{1}{10}$ gr. given every hour for a short time, will be sufficient to produce *active*

salivation. Through the influence of trituration with the very hard substance as sugar of milk, the particles of calomel are reduced to such a fine powder that more of the drug is absorbed. than when given in the ordinary manner and the frequent repetition of the dose is calculated to charge the system with the combinations it makes in its absorption into the blood. If it is desired to secure a free evacuation of the bowels in the course of from 12 to 24 hours, a tablet tritriate containing $1/10$ to $1/20$ gr. of calomel is given at intervals of $\frac{1}{2}$ hour or an hour until 5, 6 or 8 or 10 have been taken, and the action upon the bowels, as regards the stools, will be quite as marked, as if 5 or 10 grs. of calomel had been taken. The difference between the effects of calomel in large or small dosage is that the *intestines are not irritated by the exhibition of small dose and hence constipation does not follow.*

Calomel in small doses is sedative to liver, stomach and intestines, and it also favours the pouring of the watery portion of the blood into the intestines ; in other words, these *small doses increase the secretions rather than arrest them,* which is the immediate effect of the large dose. These triturates are indicated in derangement of the alimentary tract in children, due to torpid condition of the liver ; $1/20$ gr. given every half hour until 6 or 8 doses have been taken will produce happiest results. These small doses are useful in *biliousness.*

HYDRARGYRI TANNAS.

Syn.—*Mercurous Tannate.*

Properties and Uses.—A dark green powder containing 50 per cent. of mercury, odorless and tasteless. It is recommended for syphilis. When taken internally, it is readily absorbed into the system. It produces no irritation of the bowels, its action is rapid and satisfactory, so that it can be administered for a long time without disturbing the system. Should it cause diarrhoea in debilitated persons, $\frac{3}{4}$ gr. of tannic acid or $1/12$ gr. of opium may be added to each dose.

Dose.—2 grs.

Lastly a few words about mercury hypodermically :—Mercury hypodermically has been much employed in syphilis on the continent

of Europe. It is advised when it is desirable to bring the patient rapidly under its influence, as in affections of the eye and internal organs. The hypodermic medication with mercury has an advantage over other modes of administering the drug, "being more exact in regard to dosage, in not giving rise to gastro-intestinal troubles, in shortening the duration of treatment, and rarely causing ptyalism." The injection should be made deeply into the skin of the back, leg, or gluteal regions. By using cocaine with mercury, the pain of the injection is said to be lessened, as follows :

R. Cocainæ Hydrochlor. gr. $\frac{3}{4}$, Hydrarg. Cyanid. gr. $\frac{1}{7}$, Aq. destil. m. 15.

HYDRASTIS CANADENSIS.

Syn.—*Golden Seal, Yellow Puccoon, Ground Raspberry, Yellow Root, Orange Root, Indian Turmeric, Turmeric Root.*

Parts used.—*The Rhizome and Rootlets.*

N. O.—*Ranunculaceæ.* *Habitat.*—*United States.*

Characters and Chemical Composition.—Rhizome about $1\frac{1}{2}$ inch long and $\frac{1}{4}$ inch thick ; oblique, with short branches, somewhat annulate and longitudinally wrinkled ; externally yellowish-gray ; fracture short, waxy, bright reddish-yellow, with a thickish bark, about 10 narrow wood-wedges, broad medullary rays and large pith. Rootlets thin, brittle, with a thick, yellow bark and subquadrangular, woody centre. Odor slight ; taste bitter. It contains two alkaloids, viz., one yellow bitter alkaloid, *berberina*, and the other, a white tasteless, *hydrastine*, which is the real active alkaloid of *Hydrastis Canadensis*. *Vide "Characters and Tests of Hydrastine."*

Physiological actions.—The physiological actions of Golden-Seal (*Hydrastis*.) are dependent upon its true active principle, *hydrastine*. In small doses it elevates and in large doses depresses the blood pressure, and in small doses produces contraction and in large doses dilatation of the vascular walls. Hydrastine belongs to the group of excitomotor agents. It heightens perception, the cutaneous excitability and the reflex functions, and in large doses it causes death by tetanic fixation of the respiratory muscles. The spasms and convulsions produced

by its use are central or spinal, not peripheral. It exhausts the irritability of motor nerves and muscles. It produces paralysis, acting both on the inhibitory and motor apparatus, destroying their power of response to excitation, but the former junction yields later, or after the latter. It has a direct influence upon the secreting surfaces of the gastro-intestinal canal. It has a tonic action on the muscles and is healing to the mucous and ulcerated surfaces.

Therapeutical actions.—Hydrastis is one of the few indispensable remedies of the materia medica, fulfilling many useful indications. Its virtues are dependent upon the two alkaloids it contains, viz., *hydrastine* (the true alkaloid) possessing all the properties of hydrastis, and *herberine*, a simple bitter tonic. Hydrastis Canadensis possesses alterative, antiphlogistic, antiperiodic, antiseptic, cholagogue, diuretic, laxative, resolvent and tonic properties.

(1.) *Gastro-Intestinal Affections.*—(a.) *Dyspepsia*.—It promotes digestion and appetite and is unsurpassed in the treatment of all forms of septic dyspepsia; it will give prompt relief in cases of indigestion, due to fermentation of the ingesta, a condition characterized by gastric distress, eructations of gas, and often by vomiting. After an attack of intermittent fever, there are present such symptoms as uneasiness in the stomach, eructations after food, uneasiness, impaired digestion, coated tongue, yellow conjunctiva and irregular bowels, &c., and these are relieved by administering hydrastis before food. It is useful in catarrhal states of the stomach, *chronic gastric catarrh* and *stomach catarrh of chronic alcoholism*. It may be given to children in 5 and 10 drop doses of the fl. ext., combined with pepsine and bismuth, and the same combination is useful in the treatment of the dyspepsia of adult patients. (b.) *Diarrhœa*.—In the *diarrhœas of infancy*, it is in like manner of great service, resembling in its action mercury, but free from any danger of injurious after-effects. It is useful in *catarrh of the duodenum* and in constipation dependent upon deficient secretion. It is useful in chronic diarrhœa, dysentery and piles.

(2.) *Hepatic Affections.*—Upon the liver it acts with equal certainty and efficiency and as a cholagogue and deobstruent it has few equals. It is an hepatic stimulant. It is beneficial in *catarrh of the gall ducts* and jaundice, and in torpor of the liver.

(3.) *Malaria*.—Hydrastis is indicated in *intermittent fevers, paludal cachexia, and splenic enlargement* due to malaria, &c. It increases the action of quinine and gelsemine, and is a substitute for quinine in intermittent fevers.

(4.) *Female Genital Organs*.—Hydrastis canadensis affects directly the uterine muscle and blood vessels, producing contraction and thus lessening hyperæmia of the genitals. It acts on the uterine vessels, and not like ergot on the muscular structure. (a.) *Menorrhagia and Metrorrhagia*.:—It is useful in menorrhagia from virginal uterus and in uterine hemorrhages of various kinds due to hyperæmic conditions of the organ. It is also useful in those cases in which the usual pains accompanying menstruation are increased, in consequence of the genital congestion, to an intolerable colic. Cases of metrorrhagia metritis, endometritis and of excessive menstrual discharges, in which the fluid extract was given in 20 drop doses four times a day gave favourable results. Every case where the result of bleeding was *inflammatory condition of the parts* it succeeded and in every case it improved the digestive apparatus. It is useful in metrorrhagia depending upon uterine fibroids, postpueral menorrhagia, and menorrhagia about the time of puberty, though not readily effective. (b.) *Dysmenorrhœa*: It is useful in *congestive dysmenorrhœa* but of no value in mechanical and spasmodic obstructive dysmenorrhœa. (c.) *Catarrhal inflammation* of the mucous membranes of the body of the *uterus and cervix*, and cases where uterus is enlarged with ulcerated mucous membrane, giving off croupous exudation, and dyspepsia depending upon female genital organs, are benefited by hydrastis. (d.) *In chronic inflammations of the pelvic connective tissue*, hydrastis is useful, lessening congestion about the genitals and alleviating the abdominal pains usually experienced under such circumstances. (e.) *Displacements*.:—In displacements of the uterus especially in *reflexion and version*, it is of value in those cases where on account of *adhesions*, the reposition of the organ is impossible. In all these above cases 15 to 20 drops of a strong tincture were administered from four to five times daily, commencing fourteen days before menstruation. In certain cases it was given during intermenstrual period. It is useful in vaginitis and leucorrhœa.

(5.) *Urinary Affections*.—Internally it is useful in chronic

Bright's disease, *spermatorrhœa* and cystitis. As a local application, the fluid extract may be employed in the treatment of a great variety of sub-acute and chronic inflammations. Diluted with three times its volume of water it forms one of the best injections for *gonorrhœa* and *gleet*. It may be combined with any of the other remedies commonly prescribed in these affections internally.

(6.) It is specific in catarrhal inflammations and its antiseptic properties render it useful in chronic catarrhal inflammations of all the mucous membranes of the body, as stomatitis, aphthæ, chronic pharyngitis and laryngitis, bronchitis, urethritis, syphilitic and other affections of the mucous membrane of the nose and mouth, also of eye and ear, and all morbid and critical discharges and allied affections, both internally and externally. Topical applications to the rectum in fissured anus, rectal hemorrhage and ulcerations, promote healing. Ulcerative conditions generally are benefited by its application. Lastly it is useful in general debility, neuralgia, &c.

Preparations and Doses.—Powdered Rhizome, 10 to 30 grs.

Fl. Ext., 10 to 60 mins.

Solid Ext., 2 to 10 grs.

Tr. (1 to 10 Pf. Sp.), 20 to 60 mins.

HYDRASTIS DECOLORATA.

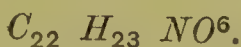
Syn.—*Fluid Golden-Seal, Colorless.* (Parke, Davis.).

Characters and Tests.—Contains no alcohol, and is miscible with water; does not stain, as do most preparations of golden seal; is free from bitterness; produces all the therapeutic effects peculiar to golden seal, while it has none of the drawbacks attaching to the preparations that have heretofore been used. If a few drops of dilute sulphuric acid be added to a little of the fluid golden-seal, colorless, and then a little potassium permanganate (solution 1:300), the color of the permanganate will disappear, and there will be developed in the solution a magnificent blue fluorescence, which will be plainly visible even when the solution is largely diluted with water.

Properties and Uses.—This fluid colorless Golden-seal, discovered by the well known chemists, Parke, Davis, supersedes in many respects, and does away with the drawbacks of, the original and commonly

employed, fl. ext. of Golden-seal ; the intense bitterness of the latter restricts its use in internal medication, while the persistent yellow stains it produces when applied topically, particularly in the treatment of diseases of the genito-urinary organs, is a cause of complaint. Hence the discovery, that the valuable properties of Golden-seal depend not upon its bitter yellow alkaloid, berberine, but upon a colorless and comparatively tasteless principle, hydrastine, renders it possible to obtain the desirable effects of the drug, in the use of a preparation free from the inconveniences that have been mentioned. Any one will be able to estimate its true worth, by the vaunted fluorescence test already mentioned. The therapeutical uses and doses are the same as those of the Ext. Hydrastis. Can. Fl.

HYDRASTINE.



Syn.—*White Alkaloid.*

Characters.—White prismatic crystals, somewhat resembling strychnia in appearance, and which when pure are quite colorless ; insoluble in water, but soluble in alcohol, chloroform, and ether. When oxidised it is decomposed into *hydrastinine* as a base, and an acid-opianic acid. It combines readily with acids, forming salts which are generally soluble in water, of an acid reaction, and producing at the same time on the tongue a sensation of numbness, and are not crystallizable. The hydrochlorate is the salt most generally used in medicine. Hydrastin exists in much smaller proportion in golden seal than the yellow alkaloid (*berberin*), the yield of the former being $\frac{1}{4}$ to $\frac{3}{4}$ of one per cent. only, while that of the latter is 1 to $1\frac{1}{2}$ per cent.

HYDRASTINE HYDROCHLORATE.

Characters.—An amorphous yellow powder, soluble in water and alcohol, with an acid reaction, having a peculiar acrid taste, producing at the same time on the tongue a sensation of numbness.

Tests and Reactions.—Pure hydrastine, in fact, dissolves in pure sulphuric acid to a solution which has only a very faint tinge of yellow. If the solution be heated its color changes to a deep blue purple. Pure

nitric acid produces an orange solution, the colour produced being quite permanent. On adding water there remains an insoluble residue, and the solution is found to have an intense blue fluorescence. The action of oxidizing agents is particularly interesting. If the alkaloid is dissolved in concentrated sulphuric acid and a little binoxide of manganese added there is developed first an orange color, which deepens to a rich cherry red, which passes through carmine to a yellowish shade of red, and then, after some time, as the acid absorbs moisture perhaps, changes rather suddenly to a pale orange yellow. The reaction is highly characteristic, and especially interesting in contrast with the behavior towards the same reagents of berberine, which again strikingly simulates that of strychnine. Berberine dissolves in sulphuric acid to a yellow solution. On adding binoxide of manganese the yellow color changes to violet, then to chocolate brown, finally gradually becomes orange red. Strychnine produces a somewhat similar series of colors, but the initial color is a vivid indigo and the violet color which succeeds passes immediately into red without becoming first brown. Permanganate of potassium brings out the colors finely, in the same order as binoxide of manganese, but more evanescent. Sometimes there is produced after the characteristic red color, a violet, reversing the order of succession observed in the case of strychnine.

A very careful comparison should be made of the color reactions of *strychnine*, *gelseminine*, *hydrastine* and *berberine* by any one, who has occasion to make toxicological investigations, and for this the following tests will be useful.

Solutions of hydrastine are precipitated by potassium bichromate. If the precipitate is touched with concentrated sulphuric acid, it becomes instantly bright red, the color fading in a few seconds. This reaction sharply discriminates hydrastine from either strychnine or gelseminine. Sulphomolybdic acid produces with hydrastine a sage green color, slowly changing to a brownish, and then gradually fading, a highly characteristic reaction. Perhaps the most striking reaction of all however, is that of solutions of hydrastine with potassium permanganate. If to the solution of hydrastine there is added a little dilute sulphuric acid, and then a few drops of a dilute solution of potassium permanganate (deci normal), the color of the permanganate solution is instantly discharged,

and there is developed in the solution an intense blue fluorescence. A single drop of a one-per-cent. solution of hydrastine is capable of rendering strongly fluorescent in this way a large test-tube full of fluid. If potassium permanganate is added in excess, the alkaloid is completely destroyed, and the fluorescent principle itself is further oxidized so that the fluorescence disappears. If hydrastine is digested with dilute sulphuric acid and binoxide of manganese there is produced a slight evolution of gas, and the solution becomes highly fluorescent. The action of nitric acid produces no doubt the same fluorescent oxidation product. (A. B. Lyons, M.D.).

Experimental Observations on Hydrastine.—(A.) Amongst cold blooded animals hydrastin causes.—(1.) A tetanic stage, which commences with an increase of reflex irritability; (2) a stage of complete paralysis, which commences with paralysis of the motor action of the spinal cord; (3) paralysis of the heart, which first affects the inhibiting ganglia, and then the automatic ganglia; (4) it has a local effect upon the musculature.

(B.) Amongst warm-blooded animals.—(1.) The paralytic stage begins earlier, and usually precedes the tetanic stage; (2) increased contraction of the vessels and blood pressure follows stimulation of the medulla—this is however comparatively small, not persistent, but is interrupted by great falls of blood pressure and vascular relaxation, especially during the tetanic attacks; (3) during the tetanus a lengthening of the pulse takes place through central stimulation of the vagus, the same occurs in the advanced stage of poisoning; (4) paralysis of the vaso-motor centres follows upon their stimulation, after this and up to the period of death there is relaxation of the vessels and fall of blood pressure; (5) death in poisoning by hydrastin takes place by paralysis of the heart. (Dr. E. Falk).

Therapeutical properties.—Hydrastine, the true active principle of *hydrastis canadensis* possesses all the well known properties of the drug to a remarkable degree. When locally applied it soothes the irritable surfaces by its feeble local anæsthetic power. It is a moderately powerful stimulant of the liver. It has a powerful action on the spinal nervous system and is a tonic to this portion owing to its action on the circulation of spinal cord; and hence it is beneficial to those, addicted

to alcoholic drinks, who usually suffer from prostration of nervous system and dyspeptic symptoms already mentioned under hydrastis. It has been employed as a substitute for quinine in intermittent fevers in doses of 1 to 3 grs. ; and in doses of $\frac{1}{8}$ to $\frac{1}{4}$ gr. before each meal it is indicated in cases characterized by uneasiness in the gastric region and some eructations after eating, impaired appetite, irregular bowels, coated tongue, foul breath, yellow tinged conjunctiva, &c. After an attack of intermittent fever such symptoms are also apt to occur and they are promptly checked by hydrastine. Hydrastine is most applicable in the catarrhal states of stomach, bowels, eye, ear, nose, throat and also in other diseased conditions, all of which can be described as follows :—

(1.) *Ophthalmic Affections*.—Infusions of Golden-seal have long been employed in the treatment of diseases of the eyes. The objection that has always been made to their use was that they produce unsightly and persistent stains. Attempts to substitute solutions of the alkaloid berberine as more definite in character, led to the discovery that berberine produced no beneficial effects, and, of course, the solutions stained as badly as infusions of the crude drug.

(a.) The remedy is chiefly of advantage in the treatment of chronic catarrhal conjunctivitis, and particularly that variety known as *conjunctivitis sicca*. (b.) It is of particular benefit in *follicular conjunctivitis*, and is also an efficient remedy in *granular conjunctivitis*, *blepharitis marginalis*, &c. Daily applications were made in some of these cases of a 5 per cent. solution to the everted surfaces of the conjunctiva, which was immediately washed off with water. Weak collyria (1 to 2 per cent.) were also used with benefit. In weak solutions it is a tonic to the mucous membrane, in stronger solutions a more or less pronounced irritant effect is added, and in still stronger solutions it becomes a powerful irritant. (c.) It is contra-indicated in all affections of the cornea or iris, either primary or occurring as complications in connection with or the result of conjunctivitis. It is also of no value in deep seated inflammations of the eye. (Dr. Sattle.)

(2.) *Aural Affections*.—The hydrochlorate of hydrastine proved serviceable, also, in the treatment of ear diseases, although the number of observations made was comparatively small. It was used to modify or arrest irritating catarrhal and purulent discharges from the external

auditory meatus, its effects comparing favourably with those of the customary mineral astringents, iodoform or boric acid, for which this agent was substituted. It was used in two cases of *acute* and five of *chronic purulent otitis media* and all the cases were apparently benefited; the discharge was reduced in quantity and lost its irritant and offensive characteristics. In combination with boracic acid it has been found very useful in otorrhœa.

(3.) *Affections of the Throat and Nose.*—When a solution containing one-per-cent. of hydrochlorate of hydrastine is thrown in a spray into the throat, it produces at first a sensation similar to that produced by a weak solution of nitrate of silver. This gives place, if the application is only momentary, to a sensation of coolness and almost numbness in the mucous membrane, which becomes less vascular, and any irritated condition that has existed is sensibly relieved. Dr. Connor, of Detroit, has made a few observations which convince him that we possess in this agent a remedy of very great value in the treatment of chronic affections of the pharynx. It has been found useful as a topical application in *nasal catarrh, chronic laryngitis and pharyngitis, and in ulcerative conditions of these parts.*

(4.) *Affections of the Urinary Tract.*—Solutions of muriate of hydrastine are useful in the second stage of gonorrhœa and gleet, in the strength of 2 to 4 grs. to an ounce to begin with. Dr. J. N. Bredin found the following formula, used as an injection four times daily, give beneficial results in *gonorrhœa*, when every other treatment, local and internal, failed: R Hydrastin, 1 dr., Sol. Morphiæ 2 drs., Mucil. Acaciæ, ad 4 ozs. Muriate of Hydrastine has been prescribed internally in doses of $\frac{1}{8}$ to $\frac{1}{6}$ gr. in chronic diseases of the urinary passages and of the bladder, on the belief that the alkaloid is excreted unchanged by the kidneys, and thus exerts a direct specific influence.

(5.) *Female Genital Organs.*—The beneficial effects of hydrastine in affections of the uterus have already been described under Hydrastis. These effects have been recently re-affirmed with emphasis by Dr. Schatz, of Rostock. He finds this agent efficacious in *hæmorrhages from myoma, from congestive dysmenorrhœa, from sub-involution, also in those attending metritis and endo-metritis, and those occurring at the period of the menopause.* He supposes the medicine to act upon the uterine

mucous membrane, exciting vascular contractions, through which mechanism it diminishes congestion of the genital organs, thus acting very differently from ergot, the influence of which is exerted upon the uterine muscular tissue.

This testimony is so positive, and confirms so fully observations that have been made by the practitioners in America, and also by me, that I must regard this action of the drug as established.

(6.) An ointment of 5 to 20 grs. to an ounce of lard has proved serviceable in eczema.

Preparations and Doses.—Hydrastine, 2 to 6 grs.

Hydrastine Hydrochlorate $\frac{1}{2}$ to 5 grs.

Yellow alkaloid, berberine : hydrochlorate, 1 to 3 grs.

„ „ „ phosphate, 1 to 3 grs.

„ „ „ sulphate, 1 to 3 grs.

HYDRASTININE.

Characters.—Hydrastin when oxidised is decomposed into hydrastinine as a base, and an acid-opianic acid. Hydrastinine is very sparingly soluble in warm water, but it unites with acids forming double salts.

Physiological actions.—(1.) In warm and cold blooded animals paralysis takes place through its effects upon the motor action of the spinal cord ; (2) it is not a heart poison ; (3) contraction of the vessels takes place, in part apparently through stimulation of the vaso-motor centre, but especially through its action upon the vessels themselves as a result of the increase of blood pressure. This appears at first periodically, is very marked, lasting, and interrupted by no periods of relaxation ; (4) with the increase of blood pressure goes a lengthening of the pulse due to central stimulation of the vagus ; (5) the fall of blood pressure occurring at death is a secondary effect, independent of the action of hydrastinin, and capable of prevention by paralysis of the respiratory centres. (Dr. E. Falk.)

Therapeutical properties.—The results of foregoing experimental observations go to prove that *hydrastinin* is a therapeutic agent

of more valuable qualities than *hydrastin*, the true alkaloid of *hydrastis canadensis*. It has on the one side its peculiar *vessel-contracting powers, which are more lasting and essentially stronger than those of hydrastin*, and on the other an *absence of the stimulating action on the spinal cord, and a favourable-influence on the action of the heart*. Muriate of hydrastinin acts more powerfully than the fluid extract of *hydrastis*, probably by causing contraction of the arterioles. This was inferred in the human subject on account of the increase of the blood pressure noted after an injection. The diminution of blood-supply to the uterus causes uterine contractions which still further increase the local anæmia ; painful contractions were repeatedly noted.

Falk reports 28 cases of hemorrhage treated by this drug, 8 of which were due to the presence of fibro-miomata. He found it most useful in cases of *hyperplastic endometritis and congestive dysmenorrhœa* ; it was less reliable in cases of fibro-myoma and chronic metritis. It should be administered before the expected flow, preferably by hypodermic injection, in doses of from three-quarters of a grain to a grain and a half (in a ten per cent. aqueous solution). Two injections of the former amount may be given weekly in cases of fibroids until the week preceding menstruation, when they should be given daily ; during the flow the dose should be increased to a grain and a half daily in half a syringeful of water. No bad effects followed the injections, except slight nausea in one instance, and passing faintness in another. No abscess occurred in five hundred injections ; they were somewhat painful, but much less so than injections of ergotin.

Falk has made repeated demonstrations with hydrastinine, and suggests it as a remedy in the treatment of uterine hemorrhages, as being much more prompt and sustained in its action than ergotine.

HYDROCHINON.

Syn.—*Hydroquinone*.

Characters.—An isomeride of Resorcin and Pyrocatechin, produced by fermentation from *Uva Ursi* leaves, but also obtained from Coal Tar, while *arbutin* is a crystallizable glucoside of *Uva Ursi*. It occurs in greyish white acicular crystals, having a slightly bitter

taste and a neutral reaction; moderately soluble in cold water, readily soluble in hot water, acid solution, alcohol and ether.

Therapeutics.—A 2 per cent. aqueous solution of hydrochinon immediately and permanently stops the active movements of fresh and salt water *amoeba*, of *animalculæ* and of a great variety of bacteria. It is a powerful and harmless *antipyretic* and *antiseptic*. Both hydrochinon and arbutin check decomposition of urine and thus improve *vesical ailments*. The properties of hydrochinon are similar to, but more powerful than, those of Resorcine. It causes no irritation when injected hypodermically. As an antipyretic agent, hydrochinon is valuable in cases of pulmonary tuberculosis, general tuberculosis, pleurisy with effusion, acute pneumonia, rheumatism, intermittent fever, puerperal septicæmia and pyæmia, facial erysipelas, cellulitis, &c. In these diseases it was tried during the pyrexial period in doses of 15 to 20 grains. 40 grs. have been given without any disagreeable effects. There was never any indication of cardiac depression. The urine of patients kept continuously under the influence of the drug, assumed a greenish brown, often a darkbrown hue after standing for 24 hours. It is very suitable in eye operations.

Dose.—5 to 20 grs., best given in alcohol.

HYDROCOTYLE ASIATICA.

Syn.—*Asiatic Pennywort* (Eng.); *Brahmi*, *Karinga* (Bom.); *Brahmi*, *Bráhma-mánduki*, *Khulakhudi*, (Hind.); *Khara bráhami*, *Khi brahmi* (Guj.); *Manduka parani* (Sans.); *Thulkuri* (Beng.); *Vullari-kire* (Tam.); *Artániya-e-hindi* (Arab); *Vallári-ká-patta* (Duk.)

Part used.—*The Plant.* *N. O.*—*Umbelliferæ.*

Habitat.—*Asia.*

Characters.—A small herbaceous plant, found in damp places in Bengal and Southern India, and growing freely all the year round if watered, sending out large runners which produce leaves, roots & fruits at the joints. The leaves are reniform, crenate, glabrous, and when young, hairy on their undersurface; stem slender and

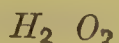
furrowed; petioles 3-4 inches long; peduncles short, bearing simple umbels; leaves reniform, crenate, glabrous, or hairy on their under surface especially when young; fruits small, compressed at the sides and ribbed longitudinally. Odor aromatic; taste bitter and nauseous.

Therapeutical properties.—The plant has well known alterative, diuretic and tonic properties, and is a local stimulant and antiphlogistic. It is beneficially employed in chronic nervous diseases, scrofula, leprosy, chronic eczema and skin diseases, impurities of the blood, ulcers, piles and secondary syphilitic eruptions, both internally and externally. The juice pressed out from the fresh creeping plant or extracted from the dried plant by means of water, is a valuable local soothing application over bruises, inflamed and swollen parts, and over rheumatic and elephantoid swellings. In India the leaves are toasted and given in infusion to children in fevers and bowel complaints.

Preparations and Doses.—Powdered Leaves, 8 grs. as an usual dose for an adult; 1 to 4 grs. for children; 3 or 4 fresh leaves are sufficient for children.

Whole Herb (dried) 15 to 60 grs., in decoction, for adult.

HYDROGEN PEROXIDE.



Syn.—*Hydrogen Dioxide, Oxygenated Water.*

Characters and Tests.—A colourless, transparent, inodorous liquid, very prone to decomposition. The least elevation of temperature causes effervescence, due to the escape of oxygen gas; near 100° F. it is decomposed with explosive violence. It contains twice as much oxygen as water, or 16 parts to 1 part of hydrogen. It has remarkable bleaching property, changing dark hairs to lighter shades, in virtue of its destructive action upon the organic colouring matter. If a few drops of an ordinary 10 per cent. solution be brought into contact with pus, a brisk effervescence takes place at

once, and continues until all the pus is completely destroyed. This effervescent action with pus has been utilized for the detection of pus in the urine. It is a delicate and reliable test if the presence of blood can be excluded. If blood be present a similar effervescence takes place and continues until colouring matter and corpuscles are bleached and destroyed. But this action does not prevent the aqueous solution giving blue tint with blood and guaiacum by the so called ozonic ether; it is more or less expensive and more manageable than the latter.

Therapeutical properties.—Peroxide of hydrogen possesses local anæsthetic, antiseptic and germicidal properties.

(1.) *Bactericide, Germicide, &c.*—It is one of the most potent destroyer of bacterial life. Germs, bacteria or microbes, are instantaneously annihilated when brought into contact with peroxide of hydrogen. This wonderful bactericide acts both chemically and mechanically upon all excretions and secretions, so as to thoroughly change their character and reactions instantly.

(2.) *Ulcers, Suppurating cavities, &c.*—The advantages claimed for it in these cases are, that it has a local astringent, *cleansing, antiseptic, stimulant, anæsthetic* and *non-poisonous* properties. Applied on absorbent wool as a swab or temporary dressing to venereal sores, foul or sluggish wounds and purulent eczematous surfaces, it produces the desired effects. Not only is it painless in its action, but in cases of painful irritable ulcers, it has been noticed that, during its application, the pain notably abated. This result may possibly be attributed to local anæsthetic action of the gas evolved during effervescence, for when the fluid acts on pus, carbon dioxide appears to be set free. By its contact with the sloughing ulcer, not only is the pus destroyed but the surface of the wound is directly stimulated and the healthy repair is permitted by the marked antiseptic properties of the fluid. These effects are noticeable in the syphilitic ulcers of all kinds. (Vide "Characters and Tests.")

(3.) *Dentistry.*—By American dentists it has been largely used as the basis of a mouth wash. As a gargle in cases of dental abscess or caries, it is very useful.

(4.) *Affections of the Mouth, Throat, and Nose.*—As a mouth wash it is useful in stomatitis ; has been directly applied to ulcerated surfaces on the tonsils and pharynx and as a douche or injection in ozoena (the crusts having been first removed) with most satisfactory results ; also beneficial in venereal ulcers on the soft palate ; also in pharyngitis, laryngitis, hay fever, catarrh of the nose and sore throat.

(5.) *Diphtheria.*—It is an excellent topical application for membranous diphtheria ; when thus employed its merits are summed up to be :—(a.) It is void of offense to taste or smell. (b.) Its use is painless and it is incapable of exciting any irritation in the parts to which it is locally applied. (c.) It is not poisonous, and may be swallowed with impunity, if any excess of topical application happens to be used. (d.) It is powerfully antiseptic and deodorant. (e.) It is a perfect solvent for the exudation of diphtheria. Dr. George W. Major, of Montreal, has treated twenty-two cases of diphtheria with an aqueous solution of peroxide of hydrogen, applied locally. He has used it internally also, but the local use is that affording the results of which he writes. His experience with the peroxide solution has extended over two years, with cases of more than ordinary severity and with a decided septic tendency. Fourteen cases presented nasal diphtheria. He has been enabled with this agent to keep the nose free from membrane. He says : “I have seen it remove membrane as quickly as it could form.” In cases in which there was an offensive odor before the use of the peroxide, the discharges have after its employment become freed from their unpleasant odor. He commonly began by using a sixty-per-cent. solution of the so-called “ten-volume peroxide,” but not infrequently used in its full strength.

(6.) *Whooping cough.*—Dr. B. W. Richardson speaks very highly of it as a remedy in whooping cough in the following formula :—R Hydrogen Peroxide (10 vols.) 6 drs., Glycerine 4 drs., Aquæ and 3 ozs. M. Half an ounce in a wineglassful of water 5 or 6 times a day. Under its influence the spasmodic paroxysms get subdued, the secretion in the throat is checked and the duration of the malady is shortened.

(7.) *Pneumonia*.—It has been tried with success in 23 cases of *congestive and croupous pneumonia*. $\frac{1}{4}$ to $\frac{1}{2}$ teaspoonful well diluted with water was administered every 5 to 10 minutes for an hour or more and was continued until crisis had occurred.

(8.) It has been also employed in bronchitis and consumption.

(9.) *Genito-Urinary Affections*.—It may be hopefully tried as a lotion for washing out the bladder in certain cases. Has been applied on tampon of absorbent wool to the ulcerated cervix uteri; also as an injection in gonorrhœa and leucorrhœa and venereal sores.

(10.) Lastly it is used as an injection for abscess cavities, purulent ophthalmia, otorrhœa, for washing out the stomach, &c. In all forms of ulcers, especially of syphilitic origin, it exerts a healing effect. It is suggested as a valuable remedy in obstinate stomachic derangement. (*Vide* "Sanitas.")

Dose.— $\frac{1}{4}$ to 4 fl. drs.

HYDRONAPHTHOL.

Characters.—A recently perfected derivative from coal tar, differing from all other antiseptic products from coal tar, although belonging to the phenol series. It is in fact another variety of naphthol series of antiseptics. Is a soft crystalline greyish powder, odorless, soluble in cold water to the extent of one part in eleven hundred only; more soluble in hot water, but the excess separates on cooling.

Properties and Uses.—It is *non-poisonous and non-corrosive*, and in solutions more than three times its antiseptic limit, it is non-poisonous. Hydronaphthol seems to differ from ordinary *B-naphthol* in several of its chemical reactions, and also in being far safer for internal administration. As much as an entire gramme has been swallowed without any ill effects whatever, whilst about half that quantity of *B-naphthol* suffices to produce much gastric irritation and even toxic symptoms. *In its antiseptic power hydronaphthol stands much higher than the variety just named, and is said to be fourteen times more potent, as an antiseptic, than carbolic acid, and 30 times as potent as salicylic acid.* When dissolved in ordinary water, it is not much

more than half as powerful than corrosive sublimate, in its antiseptic power. Further, as it is non-poisonous, a saturated watery solution of 1 in 100 may be freely made use of. As a germicide it is at least as powerful as corrosive sublimate for *anthrax* and more so for *bacillus subtilis*, even when the latter is being used under conditions most advantageous to it. It is reliably antiseptic in the strength of 1 to 2500 to 1 to 7000. Solutions 1 to 10000 arrest putrefactive decomposition, such as sulphuretted hydrogen, ammonia, &c.

It is a specific in the treatment of Tinea Tonsurans.—Shave the head completely ; wash with a 5 per cent. hydronaphthol soap. Dry the scalp ; apply over the affected area a 5 p. c. hydronaphthol plaster in narrow strips, letting each strip overlap its fellow and the plaster should extend quite half an inch beyond the margin of the diseased patch. Outside the margin of the plaster paint a layer of 10 p. c. hydronaphthol jelly (when melted) so as to exclude all air. At the end of 4 days, remove plaster. Repeat all the previous process, applying for one week a 20 p. c. plaster. Repeat the process, this time applying the 10 p. c. plaster for 10 days, and when on removal, the disease will be found to be cured. During the plaster treatment apply a 5 p. c. ointment to the unaffected portions of the head night and morning. Care should be taken to destroy all articles brought into contact with the head before the treatment. Saturated solution of hydronaphthol is very useful for the relief of various other *skin affections*.

HYDROXYLAMIN.

Characters.—Obtained by the reduction of nitric acid as a basis analogous to ammonia, occurs in colorless, hygroscopic crystals, easily soluble in alcohol, glycerine and water.

Properties and Uses.—It is a substitute for pyrogallie acid and chrysarobin in the treatment of skin diseases. Solution of 1 part of hydrochlorate of hydroxylamine and 50 parts each of alcohol and glycerine to be brushed from 3 to 5 times daily, over the skin, after washing them thoroughly with soap and water. By this way few cases of *lupus vulgaris*, *herpes tonsurans*, and a case of sycosis, were satisfactorily treated.

HYOSCYAMUS.

Hyoscyamus contains two active principles, hyoscyamine and hyoscine, the latter being the most powerful.

HYOSCYAMINE.

Characters.—It occurs in two forms, viz., crystalline and uncrystalline or amorphous. The former occurs in masses of minute white crystals. The latter occurs as a dark brown extract-like substance; it contains hyoscine and is less costly, but the dose is much larger.

HYOSCYAMINÆ SULPHAS.



Characters and Tests.—Small golden-yellow, or yellowish-white scales or crystals, or a yellowish-white amorphous powder, deliquescent on exposure to air, odorless, having a bitter and acrid taste, and neutral reaction. Very soluble in water and alcohol. With chloride of gold it yields a ppt., which, when recrystallized from boiling water acidulated with hydrochloric acid, is deposited on cooling (without rendering the liquid turbid), in brilliant, lustrous, golden-yellow scales (difference from atropine). The aqueous solution yields, with chloride of barium, a white ppt. insoluble in hydrochloric acid.

Physiological actions.—*Hyoscyamine* or *hyoscyamia*, the first alkaloid, acts as a mydriatic and in small doses reduces cardiac pulsations, increases arterial tension and checks the loss of body heat. Produces hallucinations and delirium. It may cause a fall of axillary temperature and occasionally a rash. In larger doses, it immediately reduces the pulse rate, produces a seeming paralysis or motor debility and sleep.

Therapeutical actions.—*Hyoscyamia* possesses *mydriatic* properties similar to *atropine*, but *greater*; it has *less* than *atropine* of the *deliriant* action, and much more *hypnotic* effects. It is much more reliable and *rapid narcotic* which we possess, often *complete* and *less objectionable* than *morphia* or *chloral hydrate*. It is *sedative* to the *nervous system*, and has been used in *psychoses* characterized by *high motor excitement*.

(1.) *Mental Affections*.—It is indicated in *acute mania, great restlessness, delusions of perceptions or of suspicion, dementia with agitation and destructiveness, epileptic mania and chronic dementia*. In mania and allied states it produces sleep as certainly or even more certainly, than chloral without any evil effect, unless it be occasional gastric disorder; and the best method of administration in violent mania is the hypodermic injection. Although the curative power of hyoscyamia does not appear to be great, yet in some cases of insanity, its use has been followed by recovery.

(2.) *Nervous Affections*.—In *paralysis agitans* it achieves what no remedy ever has done, viz., it arrests the movement for four hours or more without the insensibility; it cures *nervous trembling* when all other remedies have failed; it is similarly effective in *mercurial trembling, senile trembling, chorea and hysterical spasms*. In the *status epilepticus* it shortens the attack materially, perhaps better than any other single remedy. In cases of *convulsions*, both in adults and children, it alleviates pain and subdues irritation. It has been employed in *neuralgia*, and probably relieves pain by lessening the excitability of the sensory nerves.

(3.) *Antispasmodic*.—It lessens spasms and has been given in many cases of *spasmodic cough, asthma, hiccough, laryngismus, &c.*, with good results.

(4.) *Urinary Affections*.—It acts as a *diuretic*, and allays pain and irritation of the kidneys, ureters and bladder.

(5.) *Hypnotic*.—It is a general anodyne and hypnotic, and has been given to induce sleep when opium disagrees, and it does not constipate. As a rule we must look upon it as a good narcotic, often speedy, more complete and less objectionable than morphia or chloral hydrate.

Preparations and Doses.—Hyoscyamine (crystalline), 1/120 to 1/40 gr. Hyoscyamine (amorphous), 1/16 to $\frac{1}{8}$ gr.; in acute mania in doses of $\frac{1}{8}$ to 1 gr., freely diluted and cautiously administered, as some patients are intollerant of the drug.

Hyoscyaminæ Sulph., 1/120 to 1/40 gr.

Hypodermically, 1/75 or 1/80 gr., as an usual dose; 1/10 as a maximum, and 1/120 as a minimum, hypod dose.

HYOSCYAMINÆ HYDROBROMAS.

More preferable than the sulphate ; properties, uses, and doses same as the sulphate.

HYOSCINE.

It is the second alkaloid of *hyoscyamus*, also contained in uncrystallized *hyoscyamine* and in *Duboisia Myoporoides*. It occurs in a liquid form ; *hyoscine* itself is not used medicinally. Its salts are the *hydrobromate*, *hydrochlorate* and *hydriodate*. The *hydrobromate* is the most generally used.

HYOSCINÆ HYDROBROMAS.

It occurs in white crystals, freely soluble in water.

Physiological actions.—(1.) *Hyoscine* causes a primary retardation of the cardiac action, which depends upon an initial stimulation of the cardiac inhibitory apparatus ; subsequently it greatly increases the frequency of the cardiac beats, which is caused by supervening depression, or paralysis of a perepheral cardio-inhibitory apparatus. In this respect *hyoscine* forms a direct antagonist both to *eserine* and *pilocarpine* (2.) The acceleration of the heart is followed by a secondary retardation, owing to its depressant effect upon perepheral inhibitory and excito-motor apparatuses of the organ. (3.) In the beginning *hyoscine* elevates the arterial tension, but subsequently the pressure sinks to the normal or even below the level ; the rise is determined by its stimulating the whole vaso-motor apparatus, especially the spinal and cerebral vaso-motor centres, the subsequent fall being caused by supervening exhaustion of the cardiac muscle. (4.) It remarkably inhibits the secretion of saliva. In that respect it represents a direct antagonist to *pilocarpine*. (5.) *Hyoscine* does not act either on the perepheral or on the visceral temperature. (6.) It does not accelerate the process of disoxidation of the blood. (7.) It markedly depresses irritability of the cerebral cortex (motor area). (8.) It slightly lowers pathic sensibility, while the tactile one remains in a normal condition. (9.) It rapidly causes a strong and prolonged dilatation of the pupils, which is probably dependent upon a stimulating action on the sympathetic nerves. (10.) On the whole on pharmacological regards, *hyoscine*

very closely resembles *atropia*, differing from the latter mainly in a depressing action on the cerebral irritability (Dr. Pavloff, St. Petersburg).

Therapeutical actions.—Hyoscine, the second alkaloid of hyoscyamus is a powerful cerebral sedative. Its salt, the hydrobromate of hyoscine, has been rapidly advancing into therapeutical importance, its beneficial results in acute cases of cerebral excitements being very encouraging and its effects being more potent than hyoscyamine.

(1.) *Mental and Nervous Affections.*—Hydrobromate of hyoscine *speedily and effectually controls acute cerebral excitements, as mania, delusions, insomnia with restlessness, chorea and epileptiform convulsions.* In *sthenic and acute conditions* or violent manifestations arising in the course of *chronic insanity* it has notably and promptly lessened the excitement and in the frenzy of melancholia has mitigated the outbreak in cases tried in the hospitals; as much as $\frac{1}{40}$ gr. has been given in special cases without producing any untoward effects whatever. I have seen several cases of *acute maniacal delirium*, and of *hystero-epilepsy with uncontrollable convulsive seizures*, at once checked by an hypodermic injection of $\frac{1}{100}$ – $\frac{1}{75}$ gr. of hydrobromate of hyoscine. Ladenburg has found it useful also in several forms of *acute mania and of solar insomnia*. It is also beneficial in severe forms of delirium occurring in pneumonia, cardiac and renal diseases. Of its sedative uses in the excitement of insanity there also appears to be no doubt, although it has given but little or no effect in melancholia. Erb has found it a most excellent palliative in the *tremors of paralysis agitans*, and in this condition it also affords relief from the salivation and diaphoresis which are occasionally so troublesome. *The tremors of multiple sclerosis and of chronic alcoholism* were also benefited by it. These advantages have to be weighed against certain disadvantages. Many of Erb's patients complained of a feeling of general debility, drowsiness, flushed face, dry throat, slight vertigo, confusion, indistinct vision, and difficult speech. Hallucinations have also been noted. One observer, however, states that all these accessory effects of subcutaneous injection were reduced to utter insignificance by the internal administration of hyoscine.

(2.) *Eye Affections.*—Hyoscine is a very *active mydriatic*; 2 drops of a solution, 1/10 gr. to the ounce of distilled water, produced complete dilatation of pupil and paralysis of accommodatory muscles in about five minutes. The mydriasis so produced is very persistent, lasting from 5 to 10 minutes. Its application to the eye does not cause the unpleasant taste and feeling in the throat which often follow the use of *atropine*; nor in any instance did it produce toxic effects, such as occasionally attend *duboisine*. On the whole its mydriatic action is energetic and prompt, the dilatation being more rapid and greater with a $\frac{1}{4}$ to 1 per cent. solution of hyoscine; the duration of the mydriasis is, however, briefer. It is said to be eligible in chronic glaucoma, while *acute glaucoma is a counterindication*. It is useful in *iritis*.

(3.) *Hypnotic.*—Upon the hypnotic action there is a singular unanimity, notwithstanding the difference of susceptibility of various individuals. One observer, however, considers that the immediate and constant effect of hyoscine injection is not sleep, but a condition greatly resembling sleep, in which the patients are always found somnolent but yet awake. As an hypnotic it has been found useful in cases of *intense delirium with fever*. It is a remedy which can be safely administered and will act immediately and for several hours so as to afford quiet and rest not only to the patient but to those around him. It is a safe remedy in cases of renal disease where morphia is quite inadmissible, and all other sedatives have failed.

(4.) Hydrobromate of hyoscine, as well as hydrochlorate and hydriodate, has been found of value in *spermatorrhœa*.

(5.) *Contra-indication.*—It must not be given where there is *dyspnœa*.

Preparations and Doses.—Hyoscine 1/200 to 1/75 gr. hypodermically (not used itself medicinally).

Hyoscinae Hydrobromas.—1/300 to 1/100 gr. hypodermically, (upto 1/50 gr. by the mouth).

Inj. Hyoscinae Hydrobromatis. Strength $\frac{1}{2}$ per cent. Dose.—1 to 2 mins.

Hyoscinae Hydrochloras and Hydriodas. Doses same as the Hydrobromate.

ICE.

Physiological actions.—Ice or cold, first, causes vascular contraction through the vaso-motor nerves and diminishes the amount of blood in the arterioles and capillaries ; second, following this constriction of the vessels is a relaxation of the vaso-motor dilators and hyperæmia. When cold has been unduly applied, the vitality of the parts is impaired and the physiological congestion becomes pathological, and an inflammatory process is established. Cold, locally, is similar to the action of cocaine, in that it contracts the arterioles and capillaries, drives the blood from the parts affected, blunts or obtunds sensibility, and is both anæsthetic, and anodyne ; and these effects can be continued indefinitely as long as the acute or subacute congestion or inflammation continues, and on the subsidence of the latter the cold must be stopped.

Therapeutics.—Ice or cold locally applied acts as an anodyne, anæsthetic, antiphlogistic and astringent.

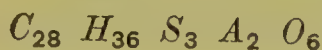
(1.) *Burns.*—On account of its power in contracting the blood vessels, it has been usefully employed in the treatment of burns, where hyperæmia and the other stages of inflammation are arrested or prevented. It is antiphlogistic. Through the anodyne, anæsthetic and antiphlogistic effects of ice, local and general irritation is arrested and prevented, and excess of blood is drawn from the burn by the contraction of the blood vessels. Ice is astringent, not only to the latter, but to all the tissues involved in the burn, and by holding the vessels in this contracted state becomes a local tonic. It is not only indicated in the first and second stages of burns, but in all the stages contained in that most excellent classification of Dupuytren. Pieces of soft linen one-third larger than the area of the burn are wrung out of the ice water and applied to the burn. These cloths are changed every 10 or 15 minutes for 12 hours, then every hour or two for 24 hours, and then dispensed with. By the continuous use of cold in this manner, the pain, heat, redness, tumefaction, phlyctenula, and exfoliation of the cuticle and inflammation are controlled. (Dr. J. G. Carpenter).

(2.) *Congestive Chills.*—No one doubts the value of ice, externally applied in active congestion of the brain, various hemorrhagic

states and in local inflammations. But its value in *congestive chill* seems to have escaped the observation of the profession. The state of congestion was often preceded by sense of chilliness. Occasionally there would be nausea and swimming of the head. At other times a feeling of lassitude, oppression, thirst, giddiness, would be developed and patient would pass unconsciously into a cold and listless state, with cold nose, extremities and face, with only an increase of warmth about the chest and bowels and back of the head and neck. A fully developed congested chill is as insidious as it is alarming, and when improperly treated, fatal. The whole surface with an occasional exception of chest and epigastrium is as cold as death and bathed in a profuse perspiration. The pulse soon ceases to beat at the wrist and the pulsations of the heart are frequent and feeble. Respiration is short and hurried with an occasional sigh. The surface becomes mottled with an irregular accumulation of dark venous blood in the capillaries and the patient sinks into a sleep of death; at other times great restlessness, anxiety and suffering may exist. One who recovers from this is perfectly oblivious of what happened during all the period of congestion, though he seemed to be perfectly conscious all the while. Accompanying congestion there is sometimes diarrhoea (always very unfavourable) at others nausea and occasionally pulmonary hemorrhage. We have a case of congestion involving the lungs, liver, stomach, and bowels. Pulse has ceased at wrist and breathing is hurried and heart beats feebly fast, surface deadly cold and perspiring. The indications clearly are to relieve the labouring and oppressed internal organs and restore the blood to the surface. All agree that *stimulants* should be vigorously *applied* to the surface, to arouse the torpid capillaries and invite the blood to the surface. A handkerchief folded many double and saturated with *chloroform* and *applied to the surface* seems to strike in to the deeper and less insensible nerves and almost as soon as applied extorts a cry of pain, when it should be moved rapidly beginning with the epigastrium and extending over the abdomen and then up the spine. Here chloroform makes impression on dormant nerves and torpid vessels. Alcoholic liquors, camphor, pepper, opium, quinine, ammonia, have been used time and again but never with any benefit but in bad cases with injury. What is the remedy then?

Pieces of ice spoonfuls after spoonfuls should be hurried down until a half gallon or more would be given. The heat internally would subside, perspiration cease, pulse return to the superficial arteries and warmth to the skin and half hour reaction would be freely established—in such cases febrile reaction would be of short duration and on the first indication of remission quinine would be given, but never before. Hundreds of cases have been thus treated. Ice should be poured in as rapidly as possible without being melting in the mouth.

ICHTHYOL.



Syn.—*Sulpho-Ichthyolate of Ammonium.*

Preparation and Characters.—It is produced by treating with sulphuric acid a special mineral oil obtained by distillation from peculiar fossil deposits (bituminous substances found in the Tyrol), consisting largely of fossilized fish—whence its name. Besides the ammonium salt, those of sodium, lithium and zinc can be prepared. However the ammonium salt is preferred on account of its less consistence. It is a brownish substance not unlike tar in appearance, of the consistence of treacle or purified coal tar, with a disagreeable odor. It dissolves completely in water or in a mixture of alcohol and ether, and can be mixed in any proportion with glycerine, fats, oils, lanoline and vaseline. It contains about 15 per cent. of sulphur.

Physiological actions.—(1.) When applied to healthy skin its effects seem *nil*, but where there is an active congestion of the part, it acts promptly by causing contraction of the arterioles, and so diminishing the vascularity of the part. (2.) As it reduces vascularity of the congested skin, the outward flow of serum is also reduced and consequently the part becomes drier.

Therapeutical actions.—Ichthyol has alterative, anodyne, antiphlogistic, antirheumatic, deobstruent, slightly antiseptic and styptic properties. It is useful, both internally and externally, in all diseases, both of the internal organs and external parts, characterized by *hyperæmia* and *enlargements of the capillaries*, and in vascular enlargements of all

kinds. Each of these I describe fully in regard to their clinical and practical aspects, as follows :—

(1.) *Affections of the Peripheral Blood-Vessels.*—It is most especially valuable in affections of the peripheral blood vessels. In numberless cases of *seborrhœa of the head and seborrhœic eczema of the face occurring in females*, there is a waxy complexion, very pale lips and conjunctivæ, migraine, backache, connected frequently with scanty and painful menstruation, constipation, great want of appetite, palpitation, lassitude, and abnormal desire for sleep, which is followed on awaking by a headache and a feeling of fatigue. Here Ichthyol administered internally for a considerable period produces a marked effect, not only rendering the skin clear but making quite another being of the patient. Again in *acne rosacea of elderly men* who eat and drink too freely, and which is frequently associated with bronchial catarrh and emphysema, Ichthyol reduces the peripheral hyperæmia and the catarrh. (Dr. Unna).

(2.) *Skin Diseases.*—Ichthyol is indicated both externally and internally in various forms of skin diseases. (a.) *Eczema* : It is useful in nervous forms of eczema in persons of nervous constitution, eczema from teething, &c.; in *scaly dry eczema* one drachm of ichthyol with one ounce of vaseline is useful locally ; for *weeping eczema*, one drachm of ichthyol to one ounce of water, painted on every 3 hrs. is useful. Dr. Joseph Zeisler has used ichthyol in 56 cases of eczema comprising nearly all forms of and stages of that protean disease. Unlike tar it can be very well applied even to weeping surfaces, which will sometimes get dry even in one or two days ; small vesicles and pustules will disappear much more promptly than by any other treatment. Its reducing power will best be seen in those hard, infiltrated patches that resist so obstinately the usual methods ; they will sometimes get paler and softer within a few days. Itching, which in such cases is almost unbearable will often be promptly relieved by it. Its regenerative power will, on the other hand be noticed in cases of chronic eczema of the palms and fingers, where even deep fissures will heal up in short time under its application. (b.) *Acne* : Cases of *acne rosacea* on the face and nose even of long standing, and also *acne indurata* have been successfully treated by ordering the affected parts to be frequently

brushed over with ichthyol soap and warm water, and also giving ichthyol internally for some time to prevent relapse. (c.) *Tetters, shingles, ring-worm* and other skin diseases are benefited by the use of a solution of 10 to 25 per cent. (say, 1 part of ichthyol to 10 to 3 parts of boiled water). The affected parts are always to be previously bathed with lukewarm water and soap, Ichthyol soap to be preferred. (d.) *Sycosis*: All of these eleven cases treated by Dr. Zeisler were rather severe and inveterate; first epilation was resorted to and then the use of ichthyol soap and a 10 p. c. ichthyol ointment had an excellent effect in 4, a good one in 7 cases after one to three weeks. (e.) Lastly: It is useful in *lichen urticatus, erythema multiform, dermatitis perpetiformis*. (f.) Ichthyol is found also beneficial in cases of *urticaria or nettlerash*; the affected parts to be brushed over with pure ichthyol: and also 5 drops of ichthyol to be taken in water three times a day.

Dr. Unna has treated successfully tumours of the skin, *pointed condylomata* and *keloids*, with undiluted ichthyol. The latter was applied several days consecutively, and the warts fell off without leaving scars. The relief of pain seems to be produced by the special antagonistic influence of Ichthyol on the effect of heat on both nerves and vessels of the skin, since the pain caused by the heat of a furnace is much lessened by the application of an Ichthyol ointment or paste on the skin. He has frequently observed, that those persons who are in the habit of painting the exposed parts with Ichthyol ointment are often free from certain cutaneous diseases arising from the influence of the heat, such as erythemata, eczemata, thickening of the skin, etc. For this reason it is advisable that engineers, firemen, blacksmiths etc., in short all persons who are exposed to the heat should always keep some Ichthyol by them. That is already the rule in several engineering works and on board of some steamboats.

Ichthyol is not indicated in psoriasis.

(3.) *Leprosy and Leprous Affections*.—Dr. Unna of Hamburg recommends ichthyol in the treatment of *lepra (leprosy)*. He says that *lepra tuberosa*, even of universal extension and more than one year's standing, can be cured. The cure can be effected in a comparatively short time by the energetic internal and external employment of the

reducing remedies, such as ichthyol, chrysarobin, pyragallo and resorcín. His formula is :—Chrysarobin parts 5, Ichthyol parts 5, Acid Salicylic parts 2, and Vaseline parts 100. M. et Ft. Ung. If ichthyol be intended to be used singly, then the formula is :—Ichthyol parts 100, Adipis parts 70, Ol. parts 30. M. et Ft. Ung. The ichthyol should also be given internally *in infinitum* without the least inconvenience so that should there remain some germs of the disease in the system, they would all be destroyed in course of time ; the usual doses, viz., 15 to 24 grs. pro die are to be taken. Ichthyol being the only reducing remedy which can be taken *internally in infinitum* is consequently of very high value in the treatment of lepra, especially of the internal organs (eyes, testicles, liver, lymphatic glands, &c.).

(4.) *Affections of the Joints and Muscles.*—Ichthyol is most serviceable in rheumatism, including the various forms that go by that name, viz. muscular rheumatism, acute and chronic rheumatism, rheumatoid arthritis, lumbago, sciatica ; also acute and chronic gout, painful neuralgias of bones, joints and muscles, which are accompanied by difficulty in moving. Prof. Schweningen says : “ I am pleased to tell you that Prince Bismarck has allowed me the pleasure of notifying how extremely favourable the ichthyol preparation, and particularly the ammonium ichthyolate, have influenced the rheumatism and lumbago from which he suffered.” Dr. A. Eulenburg, Berlin, says :—I have used Ichthyol preparations largely in the “ Nerven-Poliklinik”, of which I am the chief physician, and state that I am generally satisfied with the results obtained. The ichthyol-alcohol-ether spray containing 10 per cent. and 30 per cent. Ichthyol was of great efficacy when applied to *muscular and articular rheumatisms*, if not too severe and inveterate, and has become an established remedy with us. *In sciatica and lumbago* likewise, we have frequently seen most prompt and surprising effects.”

Dr. Von Nussbaum of Munich (Privy-Councillor) writes thus :—“ In many cases of *arthritic pains* of long standing and imbittering day and night, the severe pain was relieved instantly and in a short time, and entirely removed, by applying to the part a strong Ichthyol ointment (30 parts Ichthyol, 20 parts water or better ol. oliv., 50 parts Lanoline, or half Ichthyol—half Vaseline or better Lanoline) and then covering it with salicylated cotton wool.”

The mode of treatment by ichthyol in these affections is as follows :—The part of the body, affected by the disease, first to be bathed with lukewarm water (soap and water to be preferred) and then to be dried without rubbing. This done, the *Ichthyol* to be applied by gently stroking the part with the hand, as one would do with camphorated spirit, then cover with wadding or flannel to keep the air out or powder with talc where such packing is impossible. Both the bathing and stroking to be repeated twice a day, morning and evening. Sometimes the effect is felt immediately, at other times it requires several days ; this, however, is not surprising as some skins are more susceptible than others, and *Ichthyol* is but a *natural remedy*.

In special cases of Rheumatism it happens that after several days rubbing pustules are formed on the skin, which besides secreting a fluid, occasion a certain feeling of itching. This, however, can be considered as a good effect, and the itching will soon, be alleviated by applying a solution of abt. 10 per cent. (1 part *Ichthyol* to 9 parts of boiled water) or a weaker one. The bathing and stroking have to be repeated again in the former way as soon as possible in order to complete the cure.

With Rheumatism and Gout of long standing the same *Ichthyol* may be taken inwardly in conjunction with the outward application ; it is advisable to drink a solution of 1 per cent. (abt 20 drops of *Ichthyol* in a wineglassful of boiled water) the mixture will have the appearance of ale, to be taken at first in the morning only, and then in the morning and evening, or to take Pills of O, 1 gr. *Ichthyol* each or Capsules of 0,25 gr. *Ichthyol* each, commencing with 2 pills or 1 capsule both morning and evening, increasing to 10 to 12 pills or 6 capsules per day, according to the severity of the case. There is no danger whatever in the use of *Ichthyol* as it is *perfectly harmless*. One will soon become accustomed to the peculiar taste of the *Ichthyol* particularly if one attenuates it with much water and then drinks the solution like water.

(5.) *Female Genital Organs*.—The local action of ichthyol upon inflammation and pain led Dr. H. W. Freund to use the remedy in the gynecological clinic of the University of Strasburg. It was used in *chronic parametritis, chronic and subacute perimetritis, with exudations and formation of cicatricial bands ; in vaginal cicatrices, as well as in those of the vaginal portion of the uterus ; in chronic metritis, in*

inflammation of the ovaries, tubes, and surrounding tissues ; in erosions of the cervix, and in pruritus of the external genitals, with astonishingly rapid and complete results. The remedy was given at the same time both externally and internally. For internal administration a pill was found convenient, one and one-half grain, in the beginning three times daily ; later this dose was doubled. Externally the following formula was employed :

R.—Ammon. sulfo-ichthyl dr. $j\frac{1}{4}$
 Glycerin fl. oz. ij .

S.—To be applied upon vaginal tampons.

It was also used as an ointment—lanolin and ichthyl in equal parts ; or, as a soap, combined with green soap, ammon. sulfo-ichthyolic, drachms 2, with sapo. virid., ounces 3. In these two latter forms it is applied and rubbed on to the abdominal walls. Finally, it is also given as a rectal suppository, 1 gr. of ichthyl to 2 of butter of cocoa. The odor may be disguised by cumarin. Cervical erosions were induced to heal by applying the pure ichthyl directly to the lesion. In pruritus the unguent or a 10 per cent. solution in water may be used locally. The internal administration of the remedy influences the general condition, increasing the appetite and regulating the digestion and action of the bowels. It had no perceptible action upon the urinary excretion. The remedy was well tolerated, and no secondary action was noticed.

The results of the intravaginal applications were astonishing, its absorbent action being most prominent. In two cases thick cicatricial bands due to caustics disappeared in a few days. Parametritic cicatrices became tractable, thin, and gave way to a great extent. A quite extensive exudate in Douglas's cul-de-sac, with slight rises of temperature, disappeared in sixteen days. A case of a patient suffering from the consequences of gonorrhœic salpingitis is also mentioned : the tubes were hard, large, and immoveable ; had been subjected to the usual treatment without success ; the energetic action of ichthyl produced a cure within a few days, a copious mucous discharge pouring from the genitals. A troublesome intestinal catarrh was also removed in the same case by means of ichthyl suppositories. In painful conditions the remedy

acted as a sedative, especially in inflammation of the cul-de-sac of Douglas and perimetritis with tenesmus ani. It had no disagreeable action on the skin or mucous membrane. When there is great sensitiveness a chloral-glycerin (2 to 5 per cent.) may precede the ichthyol treatment.

(6.)—*Chlorosis, Tuberculosis, and Scrofula, &c.*—Ichthyol has been found useful in cases of chlorosis, scrofula and tuberculosis especially in children, and vascular engorgements of any kind. Prof. Zuebzer, of Berlin, thinks that ichthyol acts as a tonic, by preventing organic waste. He gave it either in capsules or pills and of these one or two capsules each containing 4 grs. every 2 hrs.

(7.)—*Gastro-Intestinal Affections.*—It is found useful in *chronic catarrh of the stomach* and intestines, *gastric catarrh of long standing*, and *catarrh of the bile ducts*, internally.

(8.)—*Alcoholism.*—It has also frequently been found that patients addicted to drink who were being treated for various skin diseases not only lost the alcoholic tremor, but began even to dislike spirit.

(9.)—*Respiratory Affections.*—As ichthyol controls the hyperæmia and enlargement of the capillaries, it has been found useful in *hypercæmia of the larynx*, externally; and in *bronchial asthma* internally.

(10.)—*Odontalgia.*—A drop or two of a combination of ichthyol and chloroform (1 to 3) placed on a piece of cotton in the hollow of a tooth or rubbed into the adjacent gum is certain to bring almost instantaneous relief.

(11.)—*Furunculosis.*—One drachm of ichthyol to 4 drachms of water, applied once every 2 hours for 3 or 4 applications, and then every 4 hrs. is useful.

(12.)—*Neuralgia, Headache and Tic Douloureux* and similar diseases are benefited by the application of an ethereal lotion of 10 per cent. ichthyol.

(13.)—*Burns.*—It is useful in burns as it *avoids vesication and alleviates pain*. In burns of first degree all symptoms are immediately relieved and also relieves pains in burns of second degree; here ichthyol wadding, slightly soaked in water can be put, on the

skin, or the skin may be painted with an ichthyol solution of 50 per cent. or the pure ichthyol.

(14.)—*Antiseptic Surgery*.—Although Ichthyol is an antiseptic I doubt if it will replace the *ordinary antiseptic* used in Surgery ; it is not recommended to clean a wound with Ichthyol, as this is effected so easily with a weak solution of mercuric chloride. On the other hand Ichthyol can be left in the wound without any danger whatever ; it causes no suppuration ; on the contrary, it exercises a beneficial astringent effect on the tissues. After its absorption, walls of a cavity firmly adhere together and are not filled by granulations as is the case when iodoform is applied. Owing to this property I have succeeded in closing abscesses, atheromatous cavities, hydroceles etc., but pus-containing cavities must first be most carefully washed out by means of one of the ordinary antiseptics.

In this respect Ichthyol has only to compete with tincture of iodine, to which it certainly will be preferred as it is quite harmless. And whilst injections of undiluted tincture of iodine produce violent pains which are felt for a long time, the pain caused by the use of Ichthyol disappears in 5—15 minutes and gives way to complete insensibility.

Ichthyol is likewise very useful for *open wounds*, principally for simple scalp wounds. By brushing them over with undiluted Ichthyol neither sutures nor bandages are required, and the wounds heal not only well and promptly, but also without the least pain or inflammation. (Dr. Unna.)

It possesses pronounced *styptic* properties and is consequently useful in hemorrhages from wounds. Instead of applying ichthyol on open wounds, ichthyol wadding may be applied or other bandages saturated with ichthyol. For contusions and sprains, a repeated rubbing with pure ichthyol after bathing the parts with hot water, subdues the swelling and pain ; in certain cases 15 to 20 per cent. of glycerine may be added in order to allow sharp rubbing.

(15.)—*Erysipelas*.—In simple erysipelas 1 dr. of ichthyol to an ounce of water, painted on every 4 hrs. either aborts the disease or limits the attack ; in severe forms occurring in wounded people Dr. Unna always disinfected the wound thoroughly and provided a

complete and effective discharge of the matter ; if erysipelas did not disappear with this treatment but sometimes did extend, then he painted the affected parts with an ointment of 50 per cent. Ichthyol and 50 per cent. Vaseline or Lanoline (or 30 per cent. Ichthyol, 20 per cent. water or better ol. oliv., 50 per cent. Lanoline), covered it with a 10 per cent. salicylated cotton wool. This not only did stop the progress of erysipelas but cured it. He first tried to limit the erysipelas by means of tr. of iodine and nitrate of silver, or red hot pins and incisions, but all in vain. The cruelly deep scarifications with carbolic dressings and not less cruel numerous daily injections of carbolic acid, seemed alone capable of arresting the progress. But, both the physician and the patient were unwilling to resort to a treatment which would put the latter in such agony.

(16.)—*Chillblains, chapped hands, &c.* are treated beneficially with a mixture of ichthyol 50 per cent. and glycerine 50 per cent. ; or still better results have been obtained in cases of chillblains by using a liniment of ichthyol and ol. terebinth. ââ.

(17.)—Dr. Lorenz, surgeon to the Prussian army, regards ichthyol as a powerful agent *against inflammation* and this property has been further confirmed by the following records :—He says : (a.) “In a case of *paronychia of the thumb*, with swelling, inflammation, and intense pain, I thought erroneously there was fluctuation and made an incision down to the bone, but found no pus. By the use of warm baths and poultices, I succeeded in extracting two drops ; the swelling remained the same and the pain became more severe so that the patient could scarcely bear the thumb to be touched. In this state I applied undiluted Ichthyol to the thumb, with as much friction as the patient could bear, and, later, to the whole hand. The first rubbing gave immediate relief, and, after repeating this twice daily for three days, the patient was free from pain and could use the limb.” Similar results have been published by the same surgeon under the direction of Prof. Dr. Leuthold, Surgeon-General of the Army and Court Physician to the Emperor of Germany, from which the following is quoted :—(b.) *Mastitis* : Mrs. R. only sent for me when the abscess was on the point of bursting. I ordered it to be rubbed with a solution of Ichthyol and water ââ,

three times a day. These not only relieved the intense pain, but softened the hardness and visibly increased and hastened the supuration, terminating the same sooner than with the generally used 2 per cent. carbolic solution. The painful lymphangitis of the arm decreased and disappeared after being rubbed twice with undiluted Ichthyol. (c.) In the case of Mrs. W., I diagnosed pus also, made an incision and liberated about $\frac{1}{4}$ Litre of pus. No drainage of the wound but immediate friction of the whole mamma-except the wound itself-with undiluted Ichthyol. The next day I removed again 300 grammes of the pus thinner than the first, ordered three more frictions, found on the third day the wound closed and the mamma free from pain. By further application of Ichthyol, the hardness also disappeared. (d.) Case of seamstress M.: I saw her the third day after the appearance of the pain and found the nipple to be sore, the mamma inflamed, enormously swollen, and very painful to the least touch, but could not discover any fluctuation. I rubbed the breast daily with Ichthyol and, to my great satisfaction, succeeded in reducing it to its normal state within three days. Ichthyol was also very efficacious in the treatment of simple *Mastodynia*: so that I prefer it to the Emplastr. sapon. Bellad. āā.

Preparations and Doses.—Ichthyol, 4 to 15 grs.; maximum dose per day, 60 grs., ordinary 30 grs., and minimum 15 grs.

Best given in capsules or pills.

Lithii Sulpho-ichthyolas, 10 to 30 grs. daily.

Sodii Sulpho-ichthyolas, 10 to 30 grs. daily.

Zinci Sulpho-ichthyolas, for external use.

INGLUVIN.

Characters.—A powder of a yellowish gray colour, prepared from the gizzard of the domestic chicken (*Ventriculus Callosus Gallinaceous*). It is the essential principle of the gizzard and bears the

same relation to the poultry that pepsine does to the higher animals. It is not incompatible with alkalies unlike pepsin. It does not digest or dissolve albumen like pepsin. Its medicinal virtues do not depend upon this property.

History and Early Uses.—The honour of its discovery and utilization, in its crude state, remotely dates with the Chinese gastronomer, as well as (in its refined condition) with the Caucasian chemist. From time immemorial the inhabitants of the Celestial Empire have used the gizzards of chickens and ducks in nearly all made dishes. Their writers have recommended the practice as a sovereign treatment of dyspepsia, weak stomach and vomiting. A favourite prescription of Chinese physicians for chronic indigestion is to cut up and digest chickens' gizzards in hot water until they are reduced to a pulp, and then to add some spices. A tablespoonful or two of the resulting paste is taken at each meal until the patient has entirely recovered. From China the practice passed to other parts of Asia, and was adopted here and there among the Mediterranean peoples. Strange to say it was never learned by the great nations of Europe until the latter part of the present century. On the other hand, the organic chemists of Europe discovered, about 1850, a powerful nitrogenous radicle in the gizzard. Experiments thereafter showed it to possess many of the qualities of pepsin. These experiments led to its isolation.

The following account of the *modus operandi* of the digestive apparatus of the fowl, on the food ingested into its gizzard will explain the actions or effects of the ingluvin in therapeutics. The poultry from which ingluvin is obtained are chiefly granivores, and have no beak nor other buccal apparatus for crushing the hard grain and seeds on which they so largely feed. The food is swallowed when apprehended, and passes directly into the crop or gizzard. This seems to act both mechanically and chemically. Its interior walls are covered by a dense, hard, cutaneous membrane, surrounded by muscles of the most powerful type. Along with the food is always a small amount of sand and gravel. The organ acts, apparently, by bruising and cracking, rather than, as is commonly believed, by trituration. The motion of the ingluvial muscles is ac-

accompanied by the slow but continuous exudation, from the walls of the crop, of a strong organic fluid, of which Ingluvin is the chief constituent. The hull of the grain or the shell of the seed is broken by the pressure of the walls and the gravel, and their interior is exposed to the chemical action of the Ingluvin. By the time it reaches the stomach it is ready for the gastric juices. From this point on, digestion proceeds as with the higher animals. As the gallinaceæ have very small salivary glands, and as the fluids secreted by these resemble the secretion of the parotid rather than that of the sublingual and submaxillary glands of the human being, it would seem as if Ingluvin played a double part, exercising the functions of the ptyalin of the saliva as well the pepsin of the stomach.

Therapeutical properties.—Ingluvin is useful in all cases where pepsin is indicated as a remedy, and its use has been attended with more uniform, beneficial results than that afforded by pepsin which has been found so variable, perhaps on account of its various strengths and different modes of preparation. Ingluvin, unlike pepsin is not incompatible with alkalies. It is a superior and more reliable remedy in all cases than pepsin from the hog. Where pepsin refuses to act, and where, in severe cases it has been rejected by the stomach, ingluvin has effected relief rapidly and with the greatest ease.

(1.) *Dyspepsia.*—Numberless experiments have proved ingluvin to be a valuable agent in the treatment of indigestion in its various forms, known as *dyspepsia*, and for sick stomach or nausea caused by the debility of that organ. It is said to be superior to pepsin in cases of feeble, painful and imperfect digestion. Edward Warren, M.D. says: "I am pleased to be able to chronicle the fact, that in three cases of pronounced *atonic dyspepsia*, and in one case of *chronic indigestion*, it has acted like a charm—promptly relieving all disagreeable symptoms and restoring the stomach to its proper functions. My patients, who had previously tried without benefit all ordinary forms of pepsin, bismuth, cerium, nux vomica, &c., &c., are delighted with this new remedy, and assure me that they experienced benefit from the first dose." At the hospital and in private practice,

for various forms of dyspepsia, it has proven highly satisfactory on every occasion. In all these cases ingluvin is administered in 5 to 10 gr. doses after meals, either dry or in water, milk or tea. In complicated affections of the stomach, such as *Inflammation*, *Gastralgia*, *Pyrosis*, &c. it may be combined with Subnitrate of Bismuth and Opiates.

(2.) *Vomiting of Pregnancy*.—It was originally discovered to be a remedy, indeed a specific, for vomiting in pregnancy; in this respect it stands above all other medicinal agents. Dr. Charles Low gives the following account of three cases of vomiting in pregnancy successfully treated by ingluvin.

The first case occurred in Mrs. B——, aged 25, about 4 months pregnant. She came to me suffering from nausea and vomiting, which had continued for two months. The vomiting did not seem to be worse in the morning, but continued nearly all day, it was increased by the sight of food, and she vomited regularly after each meal. She was looking exceedingly pale and thin, and had evidently lost a considerable amount of flesh. As at that time I knew nothing of Ingluvin, I began with 2 grain doses of Oxalate of Cerium, which I continued for a week, three times a day, without the slightest effect. I next gave Bismuth with dilute Hydrocyanic Acid, but with the same result. My patient was getting anxious, and fearing lest she should leave me, I was induced to try Ingluvin, one drachm of which was put in an ounce bottle with an equal quantity of dilute Hydrochloric Acid, and given three times a day. I was astonished to find, when she came two days after, that her vomiting had ceased. The medicine was continued for a few days to avoid a relapse.

The other two cases occurred in young girls, aged 18 and 19 respectively. The vomiting in both was troublesome. In these cases I did not try Oxalate of Cerium, but flew at once to Ingluvin, which I looked upon as a wonderful drug. The Ingluvin was given in powder in 10 grain doses, morning and evening. After taking four powders the vomiting in each case stopped and has not returned. I consider Ingluvin just as much a specific for Vomiting in Pregnancy, as Quinine for Ague, or Colchicum for Gout.

(3.) *Sea-Sickness*.—Ingluvin has been found to be a best preven-

tative of and remedy in sea-sickness. Out of several authentic reports the following one will be interesting to the reader :—

“ I was surgeon on board the Red Star steamship *Belgenland*. I only went on voyage after getting this valuable article, having been for four years in that position, was getting tired, and resigned to settle on land at my profession. But during this voyage to and from Antwerp I prescribed the *Ingluvin* to a great many patients who were sea-sick, and in no case was it without benefit, but in many cases it entirely relieved the sufferer after a few doses were taken. One case I will take the trouble to mention as a specimen of its workings. That of a German lady about 35 years of age, who had crossed the Atlantic once before, and was sick the entire passage, and unable to go to the table a single time during the passage. I found her sea-sick as soon as we were at sea, in that miserable condition of nausea and entire loss of appetite ; entirely without desire to go to the table, and feeling as though she could not sit there during the meal. I prepared some powders of 10 grains each, with directions for one to be taken ten or fifteen minutes before meals, in a little water. After taking the fourth powder she came to the table regularly during the entire voyage, without the loss of a single meal. Others I could name in which it acted promptly, among them was Mrs. Edward Brooks, of telegraph fame, that is, her husband is.” W. B. Meloney, M.D.

(4.) *Other Forms of vomiting*.—*Ingluvin* has been found also beneficial in cases of vomiting caused by *chronic inflammation of the uterus*, of which there are 7 cases on record by Prof. E. Wallace, and in vomiting due to uterine cancer, reported by Dr. Alex. H. Croucher. Prof. E. Wallace also used it in a case of very obstinate sick stomach, caused by irreducible hernia, and says, this was the only remedy that gave any relief.

(5.) *Diarrhœa, Cholera Infantum, &c.*—*Ingluvin* has been employed with most happy results in various forms of diarrhœa in adults and children, in combination with other suitable remedies according to circumstances. A. F. Shelly M.D. has been using it for a considerable time in his practice in the following formulas :—

INFANT FORMULA.

R. Ingluvin.....gr. xii.	R. Aquæ Calcis .....fzij.
Sacch. Lac.....gr. x.	Spts. Lavand. Comp.
Misce et Ft. cht. No. x.	Syr. Rhei. Arom... aa f dr. j.
Sig.—One every 4 hours.	Tr. Opii.....gtt. x.
	Misce.—Sig.—A teaspoonful every 2 to 4 hrs.

FOR ADULTS.

R. Ingluvin.....dr. j.	R. Aquæ Calcis .....f zijss.
Morphiæ Sulph.....gr. jss.	Spts. Lavand. Comp...f zss.
Misce et Ft. cht. No. xii.	Syr. Rhei Arom ...f drs. vi.
Sig.—One every 4 to 6 hours.	Tr. Opii.....f dr. ss.
	Misce.—Sig.—Dessertspoonful every 2 to 4 hours, or after each evacuation

He says : “ In inflammatory affections I combine Ingluvin with subnitrate of bismuth, equal parts, and oleaginous mixture with oil of terebinth. instead of aqua calcis. Should the evacuation be suddenly arrested, and tympanitis and colic supervene, follow with a dose of oil or magnesia, or injections. In many cases of sick headache and indigestion, I have the most happy results from the combining of Ingluvin with Pulv. Nux Vomica, the one-twentieth grain. I have treated a case of Marasmus successfully with the Ingluvin.”

(6.) *Marasmus or Tabes Mesenterica*.—(a.) “ Dr. Paul Mohr, of Cologne, mentions some cases in which he found this preparation give good results when all other treatment had failed. In a very troublesome case of tabes mesenterica, in which nourishment of every description was invariably vomited, the very first dose produced a marked effect. About four grains were ordered to be dissolved in liquid nourishment three times a day ; and in a few days’ time food of various descriptions could be retained without difficulty. In two other cases somewhat larger doses—i.e., five grains four times a day—were employed with equal success. One was a case of delirium tremens, and the other of severe dyspepsia associated with entozoa, the patient being utterly unable to retain the nauseous medicine necessary for the destruction of the worm. By means of Ingluvin this condition was remedied, and the entozoon (a *tania solium*) got rid of, a complete cure resulting.”

(b.) Dr. Anthony Bell, Newcastle Infirmary, says : " I am much gratified with the action of ' Warner's Ingluvin.' In a case of Tabes mesenteric disease, I had no difficulty in bringing the pains under subjection by opiates, but in the vomiting, emaciation and disordered condition of the bowels, there was no improvement, but finding a sample box of Ingluvin on my consulting table, I gave it in three (3) grain doses, and believe that the powders saved my little patient's life. The pain disappeared, vomiting ceased, flesh was speedily put on, and in the short space of a fortnight the patient was convalescent, and completely recovered ; aged $2\frac{1}{2}$ years."

Doses.—5 to 20 grs., for adults ; 1 to 4 grs., for children.

IODIDES.

Physiological actions.—From experiments in the laboratory and by clinical observation by Prof. G. See, it has been confirmed that iodide of potassium first determines phenomena of excitation, with the action of the heart accelerated, an elevated pressure, a manifest vaso-constriction ; then follows vaso-dilatation, with low pressure, which is also determined by the iodide of sodium. In the vaso-constriction, with elevation of pressure, and the strengthening of the heart due to potassium, the vaso-dilatation and the lowering of the pressure due to the iodine we have the explanation of the effects of the powerful action of the iodide of potassium. The vaso-dilatation explains the hyperæmia of the bronchial mucous membrane and the hypersecretion which results from the drug and which is so useful to asthmatics for getting rid of viscous secretions. It explains the pulmonary hyperæmia which results from the venous stagnation in cardiac subjects. It also explains the anti-dyspnoëic power of the iodide of potassium in facilitating the circulation in the medulla and consequently restoring it to its normal functional activity. The vaso-dilatation finally explains how the heart becomes freed from the obstacles which the tonicity of the arterial vessels presents to it, how the coronary circulation becomes more free and how the heart becomes reinforced and beats with energy. On the other hand iodide of potassium primarily strengthens the heart and the pressure. Lastly iodide of potassium reduces temperature one degree or more after its ingestion and slows respiratory rhythm.

Recent Clinical and Practical Uses.—(1.) *Affections of the Heart and Great Vessels.*—(a.) *Degenerations:* Iodides reduce fatty element in the *fatty degeneration* of the heart. In *fibro-adipose degenerations, in sclerosis*, one cannot expect the reduction of transformed tissues but the muscular fibres which have quickened their circulation remain and are consequently improved in their functions, whence the indication for iodide of potassium in all cases of degeneration. (b.) If the heart be weakened from overwork or be in a state of *asystolism*, iodide of potassium renovates the weakened or distended tissues of the heart. (c.) *Anginas:* In *coronary sclerosis (angina pectoris)* it is useful in dilating the coronary vessels that have remained free and healthy; but this is not an arterial medicament in the denutritive sense. Here iodides given for 20 days in each month and *nitro-glycerine* for 10 remaining days, is beneficial. Further it is claimed that iodides may actually *cure arterial sclerosis and prevent angina pectoris*, when given in doses of from 45 to 60 grs. daily for 3 or 4 years, taking care to suspend its use for 8 or 10 days in each month. Here I must mention that, when it is desired to augment the vaso-dilator properties of the iodides, *nitro-glycerine* may be combined with them. In *cardialgia (false angina pectoris)* where the pains are so severe, where the respiration is *polypnœic*, the iodide of potassium has incontestable advantages combined with *antipyrin* or with *inhalations of vapours of pyridine*. (d.) In *aortitis, dilatation of the arteries, interstitial nephritis*, iodides given for 20 days in each month, and *nitro-glycerine* in 10 remaining days, is beneficial.

(2.) *Frontal Headache.*—Dr. Haley says that, as a rule, a dull heavy headache, situated over the brows and, accompanied by languor, chilliness, and a feeling of general discomfort with distaste for food, which sometimes approaches to nausea, can be completely removed in about ten minutes by a two-grain dose of iodide of potassium dissolved in half a wineglassful of water, this being sipped so that the whole quantity may be consumed in about ten minutes.

(3.) *Syphilis.*—Among the syphilitic manifestations iodide of potassium is indicated in tertiary syphilis, deep tubercles of cellular tissue, syphilitic orchitis, affections of the bones and periosteum, syphilitic-cachexia, &c., Iodide of potassium though tends to produce

abortion, yet it is useful or *antiabortative* or *preventative* of abortions in *syphilitic* subjects, even when no syphilitic symptoms have been recognized. In chronic inveterate syphilitic affections where we are required to administer large doses of the iodides, *iodide of sodium* is preferable as it is well borne, and in conjunction with the fl. ext. of *Kola nuts* the largest doses of any iodide are best tolerated without any untoward results. In old syphilitic cachexia, excellent results have been obtained by combining it with fl. ext. of *cascara amarga* (which see).

(4.) Besides the above, other indications for the employment of iodide of potassium are chronic rheumatism, rheumatic arthritis, chronic gout, chronic lead poisoning, bronchocele, peptic and bronchial asthma, Bright's disease, rupia, other non-syphilitic affections of the bones and periosteum.

(5.) *Tolerance of Iodides*.—(a.) Association of small doses of *belladonna* with the iodides will render the system less susceptible to the latter; (b) that the association of milk and other diuretics with the iodides will lessen the chances of intolerance by assisting the elimination of the drug through the kidneys. (c.) Association of arsenic with the iodide will produce the same effect; giving one drop of *Fowler's solution* for every 15 grains of the iodides, although more than 12 to 15 drops of *Fowler's solution* should never be given in one day, in case iodides be required to be given in excessive doses as in the treatment of *psoriasis*. A remarkable fact in this connection is that sometimes large doses of the iodide will be better supported than the small doses, and this is due to diuretic effects of large doses of iodides. (d.) Iodism may often be prevented by freely diluting the mixture containing the iodide; the value of diluting the iodide was taught many years ago, and that it increased the efficacy of the salt. That the troublesome coryza could be controlled by small doses of *strychnia*. Large doses of iodides are tolerated by administering them with fl. ext. of *kola nuts*, as just said.

Contra-indications.—Large doses of iodides are prohibited in lesions of the stomach, intestines and kidneys; also condemned when they determine hemorrhages or permanent gastric iodism.

IODIDE OF BARIUM.

This substance, which by the way is actively poisonous, has been used in France as an application to enlarged lymphatic glands, and more especially, as a local application in chronic eczema. For this purpose it can be mixed with a petrolate.

IODATE OF CALCIUM.

It is now on its trial as a disinfectant and surgical antiseptic, and, so far, exceedingly favourable accounts have come to hand respecting its germicidal powers.

IODIDE OF LITHIUM.

It is a most useful of the lithium salts in the treatment of *gout*. Not only is it serviceable in well developed cases, but also in the varieties of eczema and dyspepsia which are of gouty origin. Also useful in *painful syphilitic affections*.

Dose.—3 to 5 grs.

IODINE.

New Therapeutical properties.—(1.) *Ague or Intermittent Fever*: (a.) Tr. of Iodine has been administered with success in the treatment of intermittent fevers, in the following form:—R Inf. of Chamomile 100 grammes, Tr. of Iodine 10 mins; this quantity is taken as three doses. It is given for several days in succession. This is further confirmed by the following reports: Dr. R. B. Morison reports 250 cases of *Malaria* treated with tr. of iodine, in 15 minim doses, largely diluted, a quarter of an hour before meals. His cases show an even more favorable result than where *Cinchonidia* is employed, and he states Iodine is now the routine treatment in all cases of acute malaria coming to the dispensary.

(2.) *Different Forms of Vomiting.*—Tr. of Iodine given in doses of three drops in water after meals is useful in *early phthisical vomiting, alcoholic gastritis, gastric ulcer, vomiting of pregnancy and of chlorosis*. The use of this drug as a general gastric sedative is not entirely new, though its decided efficacy is perhaps not widely known. Dr. Gaunt of

New York alludes to its employment of old in the vomiting of pregnancy, but shows that it is equally valuable in vomiting from a variety of causes. He instances acute indigestion, phthisis, hysteria, septicæmia, nephritis, acute catarrhal gastritis, drunkards' gastritis, and numerous cases of gastro-intestinal disturbance in children. The dose he employed was three to five minims of compound tincture of iodine, given at intervals of fifteen or thirty minutes, or sometimes less frequently. To infants he gave one minim or half a minim.

Since then Dr. F. Taylor has largely employed it as a gastric sedative, from which he gives the following account. "I have generally given it in doses of three to five minims in two or four drachms of water every half-hour or every hour for six or eight hours, and then if it is necessary to continue it I have given it at longer intervals. But the result is often attained after the second or third dose. I have used it and known it used with success in the vomiting of Bright's disease, in cerebral vomiting, in vomiting after chloroform, in the vomiting of migraine, in vomiting from gastric disease, and in other instances. Needless to say, it does not always succeed: but it seems to me to have done good much more often than other drugs commonly used for this purpose, and to be a really valuable addition to our means of treating cases of the kind."

(3.) *Skin Affections*.—Tr. of iodine given internally affects a speedy cure in the intollerable itching of *lichen* and *urticaria*.

(4.) *Ascites*.—Tr. of iodine applied to the abdomen gives good results in the treatment of ascites, not dependent on grave visceral disease. It should be applied in stripes about an inch wide and an inch apart, and repeat the application as soon as exfoliation begins. Two cases of ascites associated with malaria have been cured. In one the ascites was cured in 5, in the other in 20 days.

(5.) *Sodium Sulphhydrate* is the best agent for removing irritation of the skin produced by iodine paint, from 1 to 10 per cent. solution being used. Other less powerful agents are alkaline sulphites, bisulphites or hyposulphites, alkalies or alkaline salts.

IODINE DECOLORATA.**TINCTURA IODI DECOLORATA.**

In this preparation the colour is discharged by means of Liq. Ammon. Fort. In decolorizing in this way, a number of products are obtained, besides small quantities of ethyl iodide, ammonium iodate, and, according to the late researches, iodoform. The presence of carbolic acid is not necessary to produce discoloration ; but its presence is likely to increase the amount of iodoform. Decolorized iodine is more suitable for exposed surfaces. Strength about the same as the B. P. Tinct. Iodi.

IODIZED OIL.

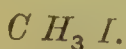
Syn.—Oleum Iodi.

Strength is 1 in 20 or of any strength desired. It is a preparation which is readily absorbed, does not stain nor cause any irritation on the delicate skin. It is useful as an application in rheumatism, bronchitis, enlarged glands, sprains, &c.

IODINE TRICHLORIDE.

Preparation and Characters.—It is easily prepared, in the form of orange-coloured crystals which are very hygroscopic, by heating iodine in a small retort, and passing its vapours into a globe or bottle, through which a current of pure chlorine is directed. In solution it may be obtained by gently agitating 55 parts by weight of finely powdered iodine in 220 parts of very cold water, and passing chlorine through the mixture, until the latter is no longer absorbed.

Properties and Uses.—An antiseptic and anti-fermentative, indicated in *dyspepsia* and as an injection in the strength of one per cent. in *gonorrhœa*.

IODOFORMUM.**IODOFORM.**

Preparation.—It is prepared by the action of iodine on a mixture of alcohol and solution of carbonate of potassium. Large quantities of

Iodoform are now manufactured from acetone instead of alcohol, the following being the commercial process. In from half to a full litre of water are dissolved 25 grammes of iodide of potassium and 1 of hydrate of sodium, 3 grammes of acetone being then mixed in. Very slowly a dilute solution of hypochlorite of sodium is subsequently added, with constant agitation, until no more iodoform, which rapidly separates, is thrown down. Iodoform thus prepared differs in no way from that made in the usual manner. The process is a good and practical one.

Characters and Tests.—Shining, lemon-yellow crystalline scales, somewhat greasy to the touch, having a persistent and disagreeable (saffron-like) odour and flavour; taste unpleasant, slightly sweetish, and iodine-like. Very slightly soluble in cold water, more soluble in rectified spirit, soluble in chloroform, benzol, benzin, disulphide of carbon, fixed or volatile oils, readily and entirely soluble in warm ether; neutral in reaction. When heated it first melts to a brown liquid then gives off brown and violet vapours, leaving a black residue which entirely disappears on continued ignition. Warmed with an alcoholic solution of potash and the resulting fluid acidified by nitric acid, iodine is liberated, mixture acquiring a brown color or, when cold, blue color on the addition of mucilage of starch.

Determination of Iodine in the Urine of Persons undergoing the Iodoform treatment.—The extensive use of Iodoform for surgical purposes at the present day, whereby sometimes as much as 10, 20, gr. and occasionally even larger quantities are ingested at a single operation, render it desirable to have a suitable means of determining the amount of Iodoform treatment. Good results are obtained in the following way:—Two hundred C. C. of urine are made slightly alkaline with a solution of Caustic Potash; the whole is then evaporated to dryness, and the residue heated to redness, to destroy all Organic substances. The ash thus obtained is extracted with boiling Alcohol, the extract filtered off and evaporated over a water-bath. The residue is mixed with a few C. C. of distilled water, a few drops of Sulphuric Acid previously saturated with Nitric Acid added, and the whole is then shaken up with a small quantity of Carbon Bisulphide. The presence of Iodine gives rise to the formation of the well known violet tinge in the Carbon Bisulphide; and when present in anything more than mere traces, its amount

may be determined by titration with a solution of palladious chloride of known strength. (C. Bernbeck.)

Physiological actions.—Iodoform has a toxic action on the cerebral centres which sometimes becomes violent and even fatal. Sometimes it also produces morbid changes in the action of the heart, and afterwards of the brain. The graver symptoms are. (1) sudden frequency and smallness of the pulse, sleeplessness, great disquietude, *delirium*, *hallucinations*, attacks of mania, confusion, melancholia, refusal of food. These symptoms of mental disturbance may pass away rapidly, but may also last for weeks and end in recovery. Some of them are followed by paralysis of the heart and lungs and end in death. (2.) After a short period of excitement, symptoms of severe. *Meningo-cephalitis*; supervene, consisting of unconsciousness, coma and sopor; and involuntary passage of urine and fæces with great muscular debility. These cases generally end fatally. The delusions produced by the toxic action of iodoform are very peculiar and interesting; as will be evidenced from the two following cases:—Powder of Iodoform was blown into the sac of hydrocele after being tapped; patient began to have delusions, dressing himself in strange costumes, imagining he was of *prodigious height and growing rapidly*. *His ideas were all of an exalted character; he imagined he had the best tenor voice in the world* and proceeded to hire a large concert. Another case who had extensive ulcers was dressed with iodoform and he had also similar delusions.

Therapeutical actions.—Iodoform possesses anæsthetic, anodyne, antiseptic, anti-tuberculous, detergent, solvent and stimulant properties. In a large majority of cases where there is solution of continuity of soft parts, it far surpasses all other known remedies, being a powerful antiseptic and alterative to diseased surfaces. Iodoform is best indicated, and best results have been obtained by its use, *in various manifestations of tuberculous subjects*; also in various other affections, both internally and externally as will be found from the following descriptions:—

(1.) *Ophthalmic Affections.*—(a.) Iodoform in the form of powder or unguent is useful in *injuries, operations and wounds of the cornea*; (b.) *in serpiginous ulcers and corneal herpes*; (c.) *phlyctenulæ, conjunctival ulcerations* and affections of the lachrymal sac. (d.) In phlyctenu-

lar pannus iodoform powder is serviceable. (e.) One part of iodoform with 9 parts of vaseline is valuable for *granular conjunctivitis*.

(2.) *Supra-orbital and other Neuralgias*.—One part of Iodoform with 10 of collodion (*Iodoform collodion*) has been found very effective in cases of neuralgias. A half ounce is usually sufficient for any ordinary single application. It is found most effective when painted on in very thick layers, which may be conveniently done with the usual camel hair's brush. As soon as one coating becomes a little firm another is applied and so on until it appears to have an average thickness of half a millimetre. In the neuralgic cases a cure, when effected, was usually accompanied with one or two applications. *Supraorbital neuralgias, even of malarial origin*, particularly if the miasmatic infection dates back sometime, seem quite amenable to this treatment; of course it is not recommended as a substitute for quinine here, but only as an adjuvant where the latter fails or acts too slowly.

(3.) *Erysipelas*.—The same iodoform collodion mentioned above, remarkably relieves the pain of simple Erysipelas, and also the tendency of the disease to spread ceases, when applied frequently in thick layers.

(4.) *Phthisis and Tuberculosis*.—Excellent results have been obtained by iodoform in tuberculous manifestations. Iodoform was given, with satisfactory results in cases of *phthisis*, in the form of inhalation, and internally in the form of pills (one grain per dose), mixed with creasote and dextrine. The best results were obtained in cases of *incipient and acute phthisis*; in chronic cases, the results were less satisfactory; in a few cases of *laryngeal phthisis*, the local application of Iodoform powder to the ulcerated surface of the larynx was followed by immediate relief, and clearing of the ulcers, without, however, producing healing of the ulcers. The conclusions arrived at were these: 1. Iodoform is well borne by the patient, without producing nausea or gastric irritation. 2. Owing to its anæsthetic properties, it relieves the irritation in the throat, and the cough, especially in incipient phthisis. 3. In some cases, it increased the digestive powers and appetite, and relieved the vomiting. 4. It reduces slightly the temperature in cases of phthisis with raised temperature. 5. In no case have any bad results followed the inhalation of Iodoform. 6. *Hæmoptysis forms*

no counter-indication for its administration (insome cases, hæmoptysis entirely disappeared on the administration of iodoform,) 7. In incipient phthisis, Iodoform seems to arrest the disease. (Dr. Dreschfeld.) Combined with Cod Liver Oil, it is also used in phthisis.

(5.) *Hæmoptysis of Tuberculous subjects*.—A pill composed of $\frac{3}{4}$ gr. of Iodoform and $1\frac{1}{2}$ gr. of Acid Tannic, has been found very effective in checking hæmoptysis in tuberculous subjects even when ergotin and morphia fail.

(6.) *Scrofula*.—It is found useful in conjunction with Cod Live Oil in cases of scrofula; similarly beneficial as a dressing in scrofulous abscesses after they have been opened.

(7.) It is also useful in caseous broucho-pneumonia, bronchial catarrh, and asthma, but has not been used as such on account of its odour.

(8) *Gastric Ulcer*.—In doses of 3 grs. made into a pill with ext. gentian, and administered three times a day it has been used by some in ulcer of the stomach, owing to its anæsthetic, antiseptic and anodyne properties. Dr. M. J. Redmund has used it successfully in such cases, and he cites a case in which the vomiting of blood which had been persistent diminished under its influence, and finally ceased; pain and tenderness diminished and within a month, the patient had entirely recovered.

(9.) *Venereal Affections*.—Iodoform has been largely and beneficially employed in syphilis, in all its stages, and of the various parts of the body.

(a.) *Soft and Hard Chancres*.—In mild cases of soft chancres simple iodoform powder sprinkled over the sores thrice a day is sufficient; or perhaps still better, a mixture of equal parts of iodoform and white peat (Kieselgühr) will suffice. I am in the habit of prescribing as follows: R, Iodoform grs. 20, Alabaster or Gypsum Pulv. (Ghabhan. Guj.), grs. 20, Ol. Sanitas ms. 2. M. To be sprinkled on sores twice or thrice a day, having previously touched the chancres with lunar caustic the first day; I have found this treatment specific in all my cases; here sanitas oil greatly masks the odor of iodoform and even enhances its healing powers. In obstinate cases, iodform may be given internally with benefit. (b) Hard or Hunterian chancres heal

under its influence in about four weeks ; if this fails, then a mixture of equal parts of iodoform and hydrargyrum c. creta will be beneficial.

(c.) It is also beneficial in *syphilitic ulcerations of the mucous membranes*. In *syphilitic affections of the tongue and of the nose and pharynx* it is useful externally, as well as internally in the form of pills composed of iodoform gr. 1-1½, ext. gent, et ext. sarsæ. q. s. (d) Iodoform is largely administered in *tertiary syphilis* ; it is recommended in *syphilitic rheumatism, night pains of syphilis, &c.* Iodoform surpasses iodide of potassium in *syphilitic neuralgia*, when administered in the amount of 15 grs. per day in pills. (e.) As a dressing for suppurating *buboes*, syphilitic or not, it has no equal.

(10.) *Genito-Urinary Affections.* In *fissure of the os uteri* which happens frequently after first labour no application is so useful as iodoform. In *erosions of the os or vaginal portion of the cervix whether due to endocervicitis or not*, iodoform is the best application. It acts admirably in *chronic cervicitis* ; in such cases a tampon of absorbent cotton is saturated with a solution of iodoform in glycerine and placed near the affected part. It is also useful in *fistula and ulcerations of the rectum and vagina*. In *gonorrhœa*, iodoform 30 gr. suspended in an ounce of water by means of mucilage, or as iodoform and eucalyptus bougies, are useful.

(11.) *Epididymitis and Orchitis.*—As a sorbifacient and anodyne in epididymitis and orchitis it is an excellent remedy and is applied as an ointment composed of 1 part of iodoform to 4 parts of vaseline.

(12.) Is an useful local application in strumous eczema, lupus vulgaris and ecthema.

(13.) Iodoform is useful both internally and externally in *goitre, neuralgias and chronic rheumatic pains*.

(14.) *Ascarides*.—Dr. Schredowsky has employed iodoform successfully in three cases of ascaris. He gives to an adult one grain with 10 grs. of bicarbonate of soda three times a day, and ¼ gr. to a child.

(15.) *Nasal Affections.*—Pure iodoform may also be used as a snuff in *nasal catarrh*. A combination of Iodoform dr. 1, Cocaine grs. 12, Ol. Eucalypt. ms. 3, Sacchari Lactis ad oz i, used as a snuff every

2 or 3 hrs, is useful in *acute or chronic catarrh, traumatic rhinitis*, and acute coryza with pain of nasal nerve. Iodoform is also indicated in *naso-pharyngeal ulcers, tuberculous carries &c.*

(16.) *Cold Abscess.*—Prof. Verneuil obtains a rapid cure in all his cases of cold abscess, abscess from diseased bones or from congestion, &c. by an ethereal injection of iodoform of the strength of 1 in 20. The abscess is emptied by means of Potain's aspirator and then from 100 to 300 grammes of the iodoform solution is introduced into the cavity. By not exceeding this quantity (*i.e.* 5 to 15 grms. of iodoform) no fear of accidents need be felt. The liquid penetrates into all the diverticula of abscess, the ether becomes evaporated or absorbed and iodoform is deposited uniformly.

In 1881 Mikulicz employed an emulsion of Iodoform pur. 10·0, glycerine 80·0, olive oil 40·0, in two cases of abscess of the thigh after opening them. There was subsequent diminution of the abscess cavity after some weeks. Prof. Billroth in 1884 improved the above formula as: 10 grms. of pulverized iodoform and 100 grms. of glycerine; the mixture had to be violently shaken before it was used; of 20 cases treated by him, 18 were definitely cured. Prof. Bruns, of Tübingen, also obtained very satisfactory results by this method. This method was practised on almost all the bones, joints, and soft parts of the body, affected with caries and abscess, and in nearly all of these cases the results were obtained far surpassing all previous experience.

The *technique* of the treatment is as follows: When operating upon the extremities Esmarch's bandage must be applied; when the cavity has been emptied it should be taken off. Prof. Billroth insists upon most scrupulous antiseptic precautions; the skin must be washed with alcohol, ether and sublimate and the silk sutures must be completely sterilized. An incision is made through the skin and the soft parts over the abscess along the long diameter of the swelling. A large pledget of iodoform gauze is then pushed into the abscess, and its inner surface firmly rubbed. The cavity is then washed with a 1 in 8,000 solution of sublimate. If there is a cavity in the bone this is energetically cleansed. The wound is next stitched up, except a large opening

through which the emulsion is poured into the cavity of the abscess and the cavity of the bone respectively. Finally, the rest of the wound is closed with sutures, and the dressing applied. The worst cases of very large abscesses and numerous fistulæ gave in Billroth's hands the best results, not merely proportionately but absolutely.

(17.) *Cancerous Ulcerations*.—A mixture of equal parts of Iodoform and powdered Oleate of Zinc applied with an insufflator to ulcerated surfaces, especially cancerous ulceration, reduces the pain and discharge. (18.) Lastly, iodoform is used almost universally either to the unbroken skin or as a dressing for *surgical wounds, accidents, ulcers* as previously described, and affections of the *oral and nasal cavities*.

(18.) *Carbuncles*.—A mixture of equal parts of iodoform and oxide of zinc is useful as an application for carbuncles as follows:—The part is first washed with a solution of Carbolic Acid (1 in 40) or of Corr. Subl. (1 in 2,000), then dusted with the iodoform and zinc, and then covered with lint soaked in carbolized oil (1 in 40). Renew this dressing once or twice daily. Remove the sloughs as they get loose and employ constitutional treatment at the same time. *Large sloughing surfaces in unhealthy subjects and carbuncles* have been thus treated with satisfactory results and uniform success without resort to knife.

(19.) *Small Pox*.—An ointment consisting of 2 parts of Iodoform, 2 of Camphor and 20 Vaseline is useful for preventing the pitting of small-pox.

(20.) *Agents which mask the odor of Iodoform*:—As iodoform, on account of its disagreeable odor, is disliked by many patients, and as its powerful and disagreeable smell has become known to many so as to easily detect it in persons who have applied it either for venereal or other diseases, and thus there being some drawback to its employment, a number of substances have been employed to mask its odor, a short description of which will not be out of place:—(a.) One grain of *tannic acid* to 4 grs. of iodoform will almost, though not totally, destroy its odour; (b.) Finely powdered *roasted coffee* does also mask its odor and is worth using since coffee possesses germicidal properties; (c.) According to S. Hoenig,

the best means of covering the odor of iodoform is *cumarin* one grain of the latter being sufficient for about forty-five grains of the former. The odor of *cumarin* can be perceived in the mortar after several days even when most carefully cleaned, while the iodoform odour disappears immediately; but *cumarin* is very expensive. (d.) So I prefer *Sanitas oil* to be the best agent, which not only almost disguises the odor but it is a good *solvent of iodoform* and is besides *powerfully antiseptic* (*vide Sanitas Oil*); if used in powder, one or two drops of the oil is sufficient; but if used as ointment, or as solution in oil or glycerine, a required amount of *sanitas oil* may be added. (d.) *Ol. Eucalypti* has similar, though less, effects. (e.) Dr. Putz, of Graefrath has tried all the recommended means for covering the odor of Iodoform and confines himself now exclusively to oil of Mirbane or Nitrobenzol, all the others having failed in his hands. Six drops of Nitrobenzol are used for every grain of Iodoform. (f.) Other less effective agents are Oil of Lavender, Oil of Anise, Balsam of Peru, Musk, &c. (g.) The latest method to remove the odor of iodoform from utensils is to impregnate a handful of saw-dust with carbolic acid and to scour the utensils with this; they are afterwards to be washed and rinsed with water.

(21.) *Contra-indication*.—Iodoform should not be employed on an inflamed surface since it is likely to cause irritation and is apt to inflame the round skin surrounding the tissues.

(22.) *Toxicology*.—Dr. Behring states that *Bicarbonate of Sodium* is an antidote in poisoning from iodoform. Since the iodoform is eliminated in the urine as a sodic salt the author thinks it abstracts alkalies from the blood. By supplying the alkalies thus withdrawn from the blood he believes that the system may acquire a special toleration for iodoform. *Bromide of Potassium* is also an antidote; this fact being due to bromide of potassium exceeding all other salts in its power for dissolving iodine compounds.

Dose.— $\frac{1}{2}$ to 3 grs.

iodoform bituminate.

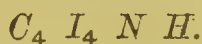
Characters.—A compound of Iodoform and Tar, occurring in brown metallic-coloured transparent scales, which are easily pulverizable.

Properties & Uses.—The combination with Tar diminishes the volatility of Iodoform as well as disguises its disagreeable odor. Externally it is employed for the same purposes as iodoform, especially as a mild stimulant and antiseptic application over indolent ulcers and chronic cutaneous affections.

iodoform collodion.

It is obtained by dissolving 1 part of iodoform in 10 parts of Collodion. B. P. It is an useful application to venereal sores, enlarged glands, erysipelas and neuralgic parts. *vide* “*Supraorbital Neuralgia*,” under Iodoform.

iodol.



Syn.—*Tetra-Iodo Pyrrol.*

Characters.—Iodol, prepared by precipitating Pyrrol (a constituent of animal oil) with Iodo-iodide of Potassium, is a light fawn-coloured micro-crystalline powder, nearly odourless, pleasant almost tasteless. It contains 88·9 per cent. of iodine, while iodoform contains about 96 per cent. Is slightly soluble in water, *viz.*, 1 to 5,000; quite soluble in 3 parts of absolute alcohol; soluble in warm oil 1 to 7 very soluble in ether, forming a brown liquid; less soluble in chloroform, *viz.*, 50 p. c.; soluble also in glycerine and fats. Solutions of Iodol darken on standing or at high temperatures, and a deposit of iodine occurs, hence it should be kept in blue glass bottles and in a cool place; in this manner it can be kept fresh and clear for any length of time.

Therapeutical properties.—Iodol is an effective substitute for Iodoform without its unpleasant odour or anaesthetic toxic effects and may be employed in all the conditions for which iodoform has hitherto been

prescribed. It has been given in 4 to 8 gr. doses twice a day and *no poisonous effects* have been noticed by those who have used the drug even when long continued. *No constitutional phenomena* follow the long continued use of this drug as an external application, and it is thus free from one objection which can be urged against iodoform. It is undoubtedly an *antiseptic* which is due to the liberation of iodine, and it is eliminated from the system as iodine. It is likely to retain its place among the many antiseptic remedies recently introduced into surgical practice. Added to fluids which readily under go de-composition, iodoform keeps them fresh for months.

(1.) *Ophthalmic Affections*.—For corneal ulcers, chronic conjunctivitis, purulent ophthalmia, and diphtheritic conjunctivitis, an ointment with vaseline 1 to 20, or a solution in glycerine of the same strength, or a powder of 6 parts of iodoform to 4 of sugar, is beneficial.

(2.) *Affections of the Nose, Mouth, Larynx and Pharynx*.—Dusted pure as a simple powder it is most useful in ulcerations of these parts; or a solution composed of 1 part of iodoform, 16 parts of alcohol and 34 parts of glycerine is used as a spray or paint. For *naso-pharyngeal atrophied conditions*, a solution of iodoform 1 dr. with ether 1 oz. is beneficial. Iodoform has been employed with success in many cases of *laryngeal phthisis*.

(3.) *Venereal Affections*.—(a) *Chancres*: Here it has been used with the best results. The venereal sore having been washed with water and carefully dried, was sprinkled over with Iodoform powder, and covered with silk protective; if the chancre was large and very purulent, Brun's wool was also employed; this dressing was repeated every twenty-four hours. After the dressing had been renewed from four to six times, the base of the chancre commenced to granulate, and the edges showed a tendency to cicatrize; no fresh ulcerations, nor any *adenitis* in the inguinal region, ever appeared, and even commencing inflammation of the lymphatic glands (in two cases) subsided without any special treatment. (b) As an application to powder in open buboes it produces marked benefit. (c) *In syphilitic ulceration of the pharynx*, the result obtained by its internal administration was excellent, the treatment being aided by the local application of iodoform.

(4.) *Ulcers & Wounds*.—It is used like iodoform for dressing ulcers. In-patients came with wounds which had large openings, with thinned, undermined, and blue edges ; the free incisions which are recommended in such cases should be avoided, and the surface of the sore simply sprinkled with Iodol powder. In twenty-four hours a change was noticeable in the character and quantity of the secretion. The ulcer was cleansed with Brun's wool, and after the dressing has been renewed three or four times, it commenced to granulate, and showed a tendency to rapid cicatrization. In ulcers where there is a very marked necrobiosis, the good effect of Iodol is very remarkable,—the foul smell disappears, the secretion diminishes, and the ulcer changes in a short time to a healthy granulating wound. In atonic ulcers also the result was likewise favourable ; even after two applications a distinct improvement was to be observed.

It is useful when injected into abscess cavity.

(5.) *Otorrhœa*.—Iodol as an insufflation or in solution of glycerine 1 to 20 has proved serviceable in purulent otitis.

(6.) The solution of 1 in 20 of glycerine is a beneficial application for *diphtheria*. It is also useful in *lupus*.

(7.) *Scrofulosis*.—Iodol was given internally in doses of 7 to 20 grains per day, to children with different evidence of scrofulosis. It proved itself valuable in torpid forms, as in *chronic swelling and in glands not yet suppurating*, it should also be used as a local application. It is similarly useful in *scrofulous abscesses*.

(8.) *Genito-Urinary Affections*.—(a) It was beneficial in *hydrocele* after evacuation of serous fluid. (b) It heals *fistula*. It deodorizes foul discharges of *cancer of the rectum and uterus*.

Dose.—1 to 3 grs.

IPECACUANHA.

Therapeutical properties.—The action of ipecacuanha varies according to the doses in which it has been given.

(1.) *Emetic*.—Ipecac, when administered in large doses of 15 to 30 grs. is a mild, safe and certain emetic, and though not so effectual in all cases as tartar emetic, yet does not weaken the stomach so

much. Under the name of *Compound Vegetable Emetic Powder*, composed of ipecac, and lobelia 2 parts, and blood root (*sanguinaria*) one part, of which half a tea spoonful given every fifteen minutes, in a cup of tepid water, until it operates freely, is a perfectly safe emetic, which does not rack the body nor leave it prostrated. A few drops of tr. of capsicum may be added to each dose if desired. I have been using this compound emetic long since for all the common purposes of an emetic at the *beginning of fevers, in bilious and stomach complaints, &c.* It is an established fact that an emetic given at the commencement of a fever will often cut it short, especially if it be effective and before the strength is greatly reduced. At any rate the disease will be much more mild and manageable. *In obstinate cases of bilious remittent fevers*, where quinine or other antipyretics do not act, I have often cut short the fever by the administration of an emetic of ipecacuanha, with subsequent administration of quinine, which then acts very well. Indications for an emetic of ipecacuanha are in the beginning of fevers when there are an heavily coated tongue, much nausea, and ineffectual efforts to vomit, a strong sense of epigastric oppression, icterus or an icterode hue of the surface, a hot and dry skin, acid and turbid urine.

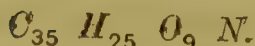
(2.) *Dysentery*.—Ipecacuanha in doses of 20 or 30 grs. is an effective remedy in severe forms of dysentery of an epidemic or sporadic kind ; it should be allowed to retain in the stomach by the previous administration of little opium and by an application of sinapism over the epigastrium.

(3.) *Affections*.—In emetic doses ipecacuanha is useful in membranous croup, capillary bronchitis, laryngismus, stridulus, &c. In doses of 1 to 3 grs. it is excellent for spitting of blood, whooping cough, difficulty of breathing and spasmodic asthma.

(4.) It is useful as an emetic in lodgement of foreign bodies.

(5.) In still smaller doses of $\frac{1}{2}$ to 2 grs. after meals, it is tonic and antibilious and is beneficial in indigestion and costiveness, in bilious and liver complaints, and in agues to prevent paroxysms.

(6.) In still smaller or fractional doses of $\frac{1}{10}$ gr. or 1 min. of vin. ipecac, every hour or so, it is given to allay *nervous vomiting, vomiting of pregnancy, vomiting of drunkards, vomiting of migraine.*

EMETINE.

Syn.—*Emetia*.

Characters and Tests.—The alkaloid of *Ipecacuanha*, occurring as a whitish amorphous powder (when not absolutely pure it has a greyish-yellow tinge); inodorous with a slightly bitter taste; very slightly soluble in cold water; very soluble in alcohol; scarcely soluble in ether and oil. Its solution is copiously precipitated by tannin; and assumes an intense and permanently yellow colour with solution of chlorinated lime and acetic acid. The best *ipe-cacuan* yields about one per cent. of pure *emetia*.

Properties and Uses.—It has direct irritant, nauseant and emetic properties. It is useful in pulmonary affections, biliousness, and as an emetic, like *ipe-cacuanha*.

Doses.—1/120 to 1/30 gr. as a diaphoretic and expectorant; 1/8 to 1/3 gr. as an emetic; 3 grs. as a maximum emetic dose for an adult.

IRIS VERSICOLOR. IRIDIN.

Syn.—*Blue Flag*, *Flower de Luce*.

Part used.—*The Rhizome and Rootlets*.

N. O.—*Iridaceæ*. *Habitat.*—*United States*.

Characters.—It is remarkable for its large blue flowers and sword-like leaves. Rhizome horizontal, consisting of joints, two to four inches long, cylindrical in the lower half, flattish near the upper extremity, and terminated by circular scar, annulated from the leaf-sheaths, gray-brown; rootlets long, simple, crowded near the broad end; odor slight; taste acrid, nauseous. It contains an active principle, *iridin* or *irisin*.

Therapeutical properties.—It has alterative, anti-syphilitic, cholagogue, diuretic, errhine, laxative, resolvent, sialagogue, stimulant, tonic and vermifuge properties. In large doses it is a drastic purgative and emetic. *It stimulates the lymphatics, absorbents, skin and kidneys, and is a powerful hepatic stimulant. It is considered a complete substitute for calomel, without any of its bad effects on the*

system. It is indicated in scrofula, syphilis, dropsy, rheumatism, biliousness, glandular swellings, eruptions of the skin, worms and affections of the liver and spleen, and whenever there is a low condition of the excretions. It is given in *biliary disorders* and in small doses useful in vomiting of pregnancy. It is gentler in its action than *Podophyllin*, and combined with *Euonymin* is a mild aperient chologogue. Dr. Smith says, "I have destroyed *tape worm* with this alone." Irisin is justly esteemed as one of the most valuable *alteratives* in America.

Preparations and Doses.—Powdered Rhizome, 20 grs. as a free purge; 5 to 10 grs., as an alterative.

Fl. Ext., 10 to 20 mins; Solid Ext., 2 to 4 grs.

Iridin or Irisin, $\frac{1}{8}$ to $\frac{1}{4}$ gr. as renal alterative; 1 to 5 grs. as a purgative, diuretic and emetic; when given as a purgative at bed time, it should be followed by a saline aperient in the morning.

ISO-BUTYL NITRIS.

Properties and Uses.—It exists in the official amyl nitrite to the extent of 10 per cent. and it is to the iso-butyl nitrite that the therapeutic effects of amyl nitrite are due. It appears to act more promptly than the official preparation of amyl nitrite. As the official amyl nitrite varies greatly in its composition and therapeutic effects, being a mixture of several substances in indefinite proportions, this new preparation is recommended. It is useful in *angina pectoris*, *asthma* and similar complaints by inhalation.

Dose.—3 to 5 mins.

JABORANDI.

PILOCARPUS PENNATIFOLIUS.

Syn.—*Pernambuco jaborandi*, *Yaguarndi*.

Part employed.—*The Leaves.* N. O.—*Rutaceae*.

Habital.—*Brazil*.

Characters and Chemical composition.—Leaves about four inches long, short stalked oval or ovate oblong, entire, slightly revolute at

the margin, obtuse and emarginate, unequal at the base; coriaceous pellucid-punctate, mostly smooth; slightly aromatic when bruised; somewhat pungent and bitter. It contains two alkaloids, pilocarpine and jaborine, alike in composition, though jaborine acts like atropine. Pilocarpine is soluble in water and alcohol, not (or very little) soluble in ether, while jaborine is.

Physiological actions.—After a dose of jaborandi or pilocarpine there results in about ten minutes a strong diaphoretic action, as strong as a drastic action of the bowels could be caused by a cathartic, with simultaneous increase of the lachrymal, nasal and respiratory secretions. It increases heart's action and the pulse rate (20 beats) and lowers arterial tension and temperature. Following the sweating, after larger doses, are drowsiness, chilliness, languor, affected vision, contracted pupil and impaired power of accommodation. Jaborandi stimulates the peripheral terminations of efferent nerves going to glands and first stimulates and then paralyses the efferent nerves going to structures composed of involuntary muscular fibres. From its stimulating action on the secreting nerves it produces enormous secretion of saliva from the submaxillary, sublingual and parotid glands and enormous secretion of sweats from the sweat glands, beginning either in the face or at the point of subcutaneous injection and extending over the whole surface of the body; produces, though to a less extent secretion of tears from the lachrymal gland; of wax from the ears; of mucus from the nose and bronchial mucous membrane; of gastric juice from glands of the stomach and of urine from the kidneys; the secretion of milk is sometimes, but not always, increased. Its stimulating action on nerves supplying involuntary muscular fibre is observed in the eye, intestine, heart and vessels, bladder, uterus and spleen. It contracts the pupil like eserine. It stimulates the growth of hair and changes its colour from light to brown. (*Vide* "Physiological actions of *Pilocarpine*").

Belladonna compared with Jaborandi.—It resembles belladonna in its action on the pulse, flushing the face and exerting a more decided influence on adults than children. But is diametrically opposed to it in its action on the salivary, sudoral and mammary secretions, on the pupil, on the minute arteries and in delirium.

Therapeutical actions.—Jaborandi possesses powerfully sudorific, diuretic, antispasmodic, absorbent, galactagogue and sialagogue properties. It is the only direct diaphoretic of the *materia medica* up to this time. It is indicated in acute catarrhal, acute febrile, respiratory, dropsical, exanthematous, and cutaneous affections. As it stimulates absorption it is useful in cases of pleurisy with effusion, glaucoma, phlegmæcia alba dolens, and a number of other affections all of which I describe as follows :—

(1.) *Albuminuria and Dropsical Effusions.*—Jaborandi occupies the first place as a therapeutic agent in the treatment of Bright's disease, both acute and chronic and other local dropsical effusions or affections. Good results have frequently followed from the use of an infusion made from the leaves and drunk like the ordinary tea, but the drawback appears to be the nausea so easily excited in these cases; (to obviate this inconvenience, its active principle, pilocarpine muriate has been employed hypodermically, in doses of $\frac{1}{8}$ to $\frac{1}{4}$ gr. satisfactorily). *In a case of anasarca after exposure to wet or cold* without the kidneys being necessarily implicated, its action will always be that of a specific, the oedema disappearing in a very short time. It is also useful in *renal dropsy due to scarlatina, chronic parenchymatous nephritis in all its stages, acute nephritis hydrothorax, ascites, and sometimes in cardiac dropsy*. Given in small or moderate doses in various forms of albuminuria it gives excellent results by relieving the tubules of the kidneys which were blocked up by inflammatory deposits. Recently several cases of parenchymatous nephritis were cured as follows :—An infusion of 2 drs. of jaborandi leaves with one pint of hot water was prepared; of this half was first injected into the rectum, and the remainder in half an hour if the sweating did not occur earlier. Under this treatment perspiration broke out and also a large amount of water came from the mouth, as was seen in a case, and dropsy diminished more rapidly. (*vide Pilocarpine*).

(2.) *Uræmic Accidents.*—It has the power to re-establish urination in cases of uræmia and is thus beneficial in all sorts of uræmic accidents and eclampsia from albuminuria in pregnancy, scarlatina or Bright's disease; but in fully established comatose cases, it will be quite

impracticable to administer any preparation of jaboranda by the mouth, as the patient is quite unconscious and unable to swallow and in such cases the hypod. inj. of pilocarpine will be the best (which see).

(3.) *Exanthemata*.—In cases of acute exanthemata it has saved life of many children, when the eruptions were producing dangerous brain symptoms, either by being delayed, or by the exanthem, being fully appeared already suddenly going back. In measles the happiest results have followed its cases in the hands of Dr. Tascher and others, when administered before the eruption has appeared.

(4.) *Diseases of the Respiratory System*.—(a) *Whooping cough* : Jaborandi and simple syrup varying to suit age, &c. from 1 to 10 drops of fl. ext. given every 15 minutes to 3 hrs. with a teaspoonful of syrup as cough required, has in most cases given entire relief in a short time. (b) *coryza* : Here 2 or 3 doses of fl. ext. taken before bed time, with a mustard foot-bath will usually give relief to the patient or the fluid extract in doses of one drachm to be taken at bed hour ; a glass of warm lemonade to be taken half an hour previous. Under these conditions the peculiar characteristic effects of the drug will be apparent in fifteen minutes, and free elimination from the skin and broncho-mucous membrane continues from 2 to 4 hours, followed by a long and refreshing sleep. The patient, on awaking, seldom experiences any irritation, soreness or other difficulty in respiration—the acute coryza being entirely corrected, (c) *Bronchitis and Pneumonia* : As an abortive of bronchitis and pneumonia in the first stage, it is declared to be potent in arresting these diseases, as quinine is considered as an abortifacient in intermittent fever. (d) *Pleurisy* : As it stimulates absorption jaborandi is very beneficial in acute and chronic pleurisy and pleurisy with effusion. (e) Jaborandi is similarly beneficial in *bronchitis with profuse expectoration, influenza, pleuropneumonia, asthma, dyspnœa due to emphysema, laryngitis*, and such other respiratory affections produced by cold. In these affections its action depends on its power of increasing bronchial secretion and promoting absorption. (b) *Croup* : It is useful in mucous variety of croup, in which cases the increased elimination of the aqueous elements, by the broncho-mucous membrane, seems to greatly dilute the usually thick mucous and fibrinous exudation and thus prevents the tracheal and bronchial casts, so frequently met with

in this variety of croup. A child from three to five years old should take from 3 to 5 minims of the fluid extract every 15 to 20 minutes, in severe cases, until three or four doses have been taken, unless sooner, relieved. A good rule is to give the child twice as many drops as the child numbers years. For simply a harsh, croupy cough, 10 mins. of glycerine may be added to small doses of jaborandi every 2 to 4 hours (*Vide* Pilocarpine).

(5.) *Skin Diseases*.—Jaborandi internally administered is useful in many skin diseases as prurigo psoriasis, eczema, pruritus, urticaria, pityriasis, acne, pemphigus, lichen, &c. i.e., in all skin diseases where the secretion of the sweat is altered. Fl. ext. Jaborandi painted on patches of *chronic eczema* has succeeded when all other remedies have failed.

(6.) *Rheumatic Affections*.—It is useful internally in rheumatic troubles of long standing; and even in acute articular rheumatism when early employed when joints are stiff but not as yet red and swollen will often act like magic:

(7.) *Night-Sweat of Phthisis*.—At the Pennsylvania hospital the usual treatment of night sweats in consumption by giving 1/60 or 1/80 gr. of atropine at bedtime was tried, but owing to the dryness of the throat being produced the atropine was obliged to be stopped; but better results followed by giving a small quantity of fluid extract of jaborandi with it; the mouth was kept moister and sweating was checked.

(7.) *Febrile and Inflammatory Affections of Childhood*.—(a) children who are subject to "*Catarrhal fever*," with a very sudden rise of temperature, often resulting in convulsions, should be treated with this agent; as the rapidly increased transpiration to, and elimination from, the skin which this agent so quickly induces, will thus reduce the temperature and equalize the circulation in at least one-fourth the time usually required by the much abused aconite treatment. (b) Dr. John Tascher and others from their experiences recommend jaborandi in the treatment of febrile and inflammatory diseases of childhood. Its action is considered synergistic with that of aconite and is prescribed with it in local inflammations. The depressant action of jaborandi on the heart prevents its use in

the low or asthenic condition of the system; *it is in acute sthenic or inflammatory affections of childhood that it is indicated.* As just mentioned above, jaborandi is especially indicated in such diseases of childhood as brouchitis, pneumonia, measles, &c.

(8.) *Galactagogue.*—It appears to stimulate the milk glands and is useful to nursing women when the secretion of milk is deficient. In order to produce this action the drug must be given in *small* doses, as it is necessary not to cause salivation or diaphoresis; doses of 5 grs. of the leaves in form of infusion thrice a day had a decided effect in increasing the secretion of milk in several cases; or 20 mins. of tr. jaborandi with 3 to 4 mins. of tr. nux. vom., will produce a still better effects. (*Vide* Pilocarpine).

(9.) *Erysipelas.*—Dr. Sidney Thomson has for several years been treating erysipelas with entire satisfaction by locally painting every four hours, a mixture of Fl. Ext. Jaborandi 6 parts, Glycerine 1 part and Tr. Opii 1 part; and also giving internally calomel and aconite; in all 12 cases have been thus successfully treated (*Vide* Pilocarpine).

(10.) *Local Inflammations.*—(a) A multipara, on the sixth day after confinement had much pain in the left breast, which had become hard and swollen with considerable fever, pain in the head and back. In examining the breast a large cicatrix was discovered, and on inquiry it was learned that in her second confinement she had suffered in a similar manner; that the inflammation went on to suppuration and finally the breast was lanced. Diaphoretic mixture was given and locally a poultice composed of two parts of flaxseed meal and one part crushed jaborandi leaves. The leaves were infused in a quantity of hot water necessary to make the poultice of proper consistency, in order that the active properties of the Jaborandi might be more thoroughly mixed with the meal. These poultices were continued for forty-eight hours; at the end of the first twenty-four, the breast was flaccid, the swelling reduced and the pain had disappeared. There was no milk drawn from the breast in the interim and the most gratifying feature was the fact that the engorged breast was entirely relieved. At the end of the second day the treatment was discontinued, the milk flowed freely,

the mother nursed the child from this breast as well as from the other. Since then this treatment was used in a number of similar cases and was never seen to fail.

(b) *Buboes*.—These poultices have been used in the inflammatory stages of buboes and have been found successful in preventing suppuration.

(c) *Mumps*.—In mumps, these poultices of 2 parts of linseed meal and one part of jaborandi leaves, aided with the internal administration of jaborandi, have proved gratifying; and there are five cases on record of its beneficial effects in mumps.

(d.) Indeed it may be said that nothing will so successfully relieve the first symptoms of the *inflammation of the glands* in general as the application of these poultices.

(11.) Jaborandi is indicated internally in *syphilitic eruptions* and during treatment by *iodide of potassium and mercury to promote absorption*.

(12.) *Alopecia*.—Jaborandi is the most useful remedy in alopecia. As a hair tonic in boldness the following is beneficial:—Percolate one part of coarsely powdered Jaborandi with eight parts of diluted spirit; add to it one part of glycerine or castor oil, and perfumé to taste. Use freely as a dressing; also give internally fl. ext. jaborandi.

(13.) *Hiccough*.—Pagemstecher reports a case of hiccough which had resisted every known remedy. The patient's diaphragm contracted in the most violent manner about twenty or thirty times a minute, and he had been unable to take any nourishment for three days. After receiving four grains of Jaborandi leaves, in the form of a decoction, he had a profuse perspiration, after which the hiccough was completely checked. (*Vide* Pilocarpine).

(14.) Lastly, Jaborandi is useful in diphtheria, polydipsia and glycosuria, amblyopia of alcoholism and tobacco abuse; one authority states that it is an absolute remedy against white atrophy.

(15.) *Contra-indications*.—The contra-indications to the use of jaborandi or pilocarpine are *pulmonary congestion and œdema, latter months of pregnancy, affections of the gastro-intestinal mucous*

membranes, grave affections of the heart and weak-heart. On account of diaphoresis jaborandi requires great power of the heart for the time being as the sufficient amount of the blood to be forced to the surface to permit the congested capillaries to unload so much of the watery portion of the body; and we have to be, therefore, very careful with the use of such a remedy in grave affections of the heart or when the organ is seriously weakened, and to counteract any debilitating influence by the simultaneous employment of stimulants.

(16.) *Toxicology.*—*Vide* Pilocarpine.

Preparations and Doses.—Powdered Leaves, 5 to 60 grs.

Fl. Ext., 10 to 60 mins.

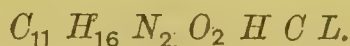
Solid Ext., 2 to 10 grs.

Inf. (1 to 20) 1 to 2 fl. ozs.

Tr. (1 to 4 Pf. Sp.), 30 to 60 mins.

N.B.—Prof. Gubler lays down the following rules for its administration in order to prevent vomiting and diarrhoea: (1.) Do not permit patients to quench their thirst but give a little weak coffee or infusion of peppermint. (2.) Always administer the drug to the patient when in a fasting condition. (3.) Do not permit the saliva to be swallowed.

PILOCARPINÆ HYDROCHLORAS.



Characters and Tests.—Minute, white crystals, deliquescent, odorless, having a faintly bitter taste, and a neutral reaction. Very soluble in water and in alcohol, but almost insoluble in ether or chloroform. The crystals yield a yellow color with concentrated sulphuric acid, a faintly greenish violet tint with nitric acid, and an emerald green colour with sulphuric acid and chromate of potassium. Nitrate of silver gives a white ppt. insoluble in nitric acid, but soluble in ammonia.

Physiological actions.—In from 6 to 10 minutes after an hypodermic injection of $\frac{1}{6}$ to $\frac{1}{3}$ gr. of pilocarpine, there results a flushing of

the face and neck, with a sensation of warmth or even of vertigo or faintness, followed by profuse salivation which continues from 2 to $2\frac{1}{2}$ hrs. and amounting to from 8 ozs. to $1\frac{1}{2}$ lbs. in quantity. A few minutes after the commencement of salivation abundant perspiration likewise breaks out but ceases before the salivation; this secretion does not exceed a little over a pound; simultaneously with the diaphoresis are the increase of lachrymal and nasal secretions and secretions from the mucous membrane of the respiratory organs, other symptoms following the use of pilocarpine are: Heaviness of head, giddiness, dysuria, temesmus, colics, diarrhoea quickening of the pulse, frequency of respiration and occasionally nausea and vomiting. After these primary actions, patient feels extremely exhausted and falls into a more or less prolonged sleep. (*Vide Physiological actions of Jaborandi*).

Therapeutical actions.—Pilocarpine has been beneficially employed both internally and hypodermically in all diseases just described under Jaborandi. Its hypodermic use has been especially serviceable when its administration by the mouth is inadmissible, as in comatose cases, puerperal eclampsia and such other cases, when we want to bring the system rapidly under the influence of the drug. The effects of pilocarpine by the mouth are not so constant as when injected. *So powerful and certain is its diaphoretic action, that it has already taken rank as the most reliable and influential remedy of its class, and when hypodermically injected it brings about even during unconsciousness, an action of the skin which the best hot air or even steam bath would not be able to create.*

(1.) *Uræmic Accidents.*—Pilocarpine is essentially indicated in uræmic coma in order to reestablish urination. It is particularly beneficial in all sorts of *uræmic accidents, whether puerperal, scarlatinal or renal.* In cases of *uræmic coma*, when the patients is comatose or unconscious and in *convulsions*, nothing is so rapid and certain in its effects as an hypodermic injection of $\frac{1}{4}$ to $\frac{1}{2}$ gr. of pilocarpine, which brings about even during unconsciousness a most powerful diaphoresis which does not only relieve the blood of its superabundant urea, but does reestablish the urinary secretion. (If, in such desperate cases when the patient's life is in imminent danger, and hypodermic injection be objected to for some reason or

other, then I must mention, that an hot infusion of jaborandi leaves injected per rectum will also produce some desired effects though not so rapid and complete as the hypod. injection.) Again if there be not so profound coma but a mere stupor and the patient be able to swallow then pilocarpine may be given by the mouth, if desired, with more or less benefit-

(2.) *Albuminuria*.—Hypodermic injections of Pilocarpine Hydrochlorate in doses of $\frac{1}{4}$ to $\frac{1}{2}$ gr. give the same satisfactory results, as the internal administration of Pilocarpine or even Jaborandi, in all stages of chronic parenchymatous nephritis even when uræmia is present and also in acute nephritis, and puerperal albuminuria.

(3.) *Rheumatic Tetanus*.—Dr. Brunauer records the successful treatment of severe rheumatic tetanus, by hypod. inj. of pilocarpine when all other means had failed to produce any beneficial effect. Quinine, Morphine, Iodine and Salicylic acid, &c, had been found useless, but 2 centigrammes of Pilocarpine alleviated the symptoms at once, and a very few days sufficed for complete recovery.

(4.) *Puerperal Eclampsia*.—In an experience of 20 cases, Dr. Fetherston felt every reason to rely on the efficacy of hypod. inj. of Pilocarpine, in half-grain doses, every 3 to 6 hrs. thus confirming the reports of numerous observers. But it is contra-indicated in dangerous cases where there is no immediate necessity for inducing labour, because pilocarpine possesses the property of stimulating the gravid uterus and thus accelerating labour.

(5.) *Respiratory Affections*.—Pilocarpine is recently prescribed with marked benefit in acute affections of the respiratory organs and if employed at the very commencement may prove useful through its power of exciting sweating in nearly all diseases resulting from exposure to cold as *angina, laryngitis, bronchitis, influenza, pleuropneumonia, &c.* In *asthma*, and in attacks of *dyspnœa in emphysema* it gives relief by stimulating the bronchial secretion. In *diphtheria* it has proved useful. Arrests *acute pleurisy* if given at the onset of the disease and even *old effusions* will disappear under its use; and indeed it was given with benefit in doses of $\frac{1}{6}$ gr. at bedtime in acute

coryza, acute laryngitis, acute bronchitis and asthma, and rhinitis. (*Vide* Jaborandi).

(6.) *Galactagogue*.—In order to produce this action it must be given in *small* doses, as it is necessary not to cause salivation or diaphoresis. Five centigrammes of Nitrate of Pilocarpine were injected subcutaneously as soon as milk became scanty, and repeated every day. From 3 to 12 injections proved successful, according to the time that the scantiness of secretion had lasted. No ill effects, either to the nurse or to the child followed its use (*Vide* Jaborandi).

(7.) *Jaundice*.—In 6 cases of *troublesome itching* depending upon jaundice, an hypod. inj. of $\frac{1}{2}$ gr. gave marked relief. Hypod. inj. of $\frac{1}{6}$ gr. once or twice daily until relief is obtained is specific for jaundice not depending on tumours of the liver.

(8.) *Hiccough*.—Severe obstinate cases of hiccough are sometimes relieved by an hypod. inj. of $\frac{1}{4}$ gr. of pilocarpine. Pagenstecher reports a case of hiccough which had resisted every known remedy, including the bromides, morphine, chloroform and electricity. The patient's diaphragm contracted in the most violent manner about 20 or 30 times a minute and he had been unable to take any nourishment for 3 days.

(9.) *Alopecia*.—Like jaborandi, it is also useful internally in cases of alopecia. Several cases have been reported in which the continued internal use of pilocarpine have caused the hair to become exceedingly coarse, and to change its colour from light to dark.

(10.) *Myotic*.—In ophthalmology it deserves a place as a myotic along side of *Eserine*; its characteristic effects are produced whether given subcutaneously or by instillations.

(11.) *Skin Diseases*.—In doses of $\frac{1}{6}$ gr. twice a day it is beneficial in all the skin diseases mentioned under Jaborandi.

(12.) *Fetid Foot Sweat*.—Dr. Armaingaud has used a hypodermic injection of pilocarpine in several cases of fetid foot-sweat with good results. The suppression of sweating about the feet, even when rapidly brought about by the use of this remedy, does not appear to affect the general organism injuriously. Whether the effect is permanent cannot be decided at present. Pilocarpine

acts here by exciting a diverting secretion in the salivary glands; the sudorific effect, which is more readily obtained with jaborandi than with pilocarpine, does not appear to be able to replace the specially salivating effects of the latter.

(13.) *Contra-indications*.—Same as Jaborandi (which *see*).

(14.) *Toxicology*.—Atropine antagonizes pilocarpine very completely, preventing its action if administered before it, and removing its effects if given after it. Sudden collapse, ought therefore to be treated by giving internally such cordials as wine, ammonia, black coffee, &c.

(15.) *Untoward effects*.—Pilocarpine when given internally, frequently causes more or less violent colics, vomiting and cold perspirations and patients in many cases are for many hours in a state of extreme anxiety, so that friends suspect poisoning by an overdose.

(16.) *Precaution*.—It is not a matter of difference whether the injections be made before or after a meal; yet to be safer, it is better to inject after meals to avoid collapse, as in one case $\frac{1}{4}$ gr. injected produced collapse and on inquiry the patient said he had not taken food during the day.

Preparations and Doses.—Pilocarpine, $\frac{1}{20}$ to $\frac{1}{4}$ gr. by the mouth. Pilocarpinæ Hydrochloras, $\frac{1}{20}$ to $\frac{1}{2}$ gr. by the mouth; $\frac{1}{6}$ to $\frac{1}{3}$ or $\frac{1}{2}$ gr. hypod.

Pilocarpinæ Nitras.—Same as Hydrochloras.

JAMAICA DOGWOOD.

PISCIDIA ERYTHRINA.

Syn.—*Erythrina piscipula*,—"the fish catching coral tree," (Linne); *Mulungu* or *Murungu* (*Dictionarie de Botanique Brasileira*).

Part used.—The Bark of the Root. *N.O.*—*Leguminosæ*.

Habitat.—West Indies; chiefly growing in arid districts on the mountains of the Antilles. Most common in Jamaica.

Characters.—The tree flowers in March and April. When full grown, it attains a height of 20 to 25 feet; has a bright-colored, smooth bark, and very irregular spreading branches. The leaves are twice or thrice pinnatifid, somewhat coriaceous covered with a fine down when young, afterwards becoming almost glabrous and deciduous. Leaflets about two inches long, twelve to sixteen lines broad, and pointed. Panicles are bushy, many flowered, and make their appearance before or together with the leaves. Calyx brownish red, covered with greenish hairs; campanulate, five-sepalous: corolla papilionaceous and whitish, with roundish emarginate standard, and with obliquely ovate alæ, having blood red veins. The bark of commerce appears in pieces of two to four inches in length and from one to two inches wide, and about one-eighth of an inch in thickness. The outer surface of some of the pieces is of dark grey brown, while others are of a yellow brown, with no shade of gray present. The bark is frequently studded with flattened protuberances of a lighter color than the surrounding cork. The central part of the bark is much lighter coloured, and when wet or freshly broken, is of a peculiar blue green color. The inner part of the bark is of a dark brown colour, and very fibrous. It has a strong disagreeable odor of opium, or perhaps more closely that of propylamine, when broken into pieces. It is strongly acrimonious, and produces a burning sensation in the mouth and pharynx. The bark is also frequently found in form of quills from one-half to an inch in diameter and generally destitute of the suberous tissue.

Chemical Composition.—Its medicinal virtues can only be extracted with alcohol, it owing its activity to the resinoid *Piscidin*, which is generally obtained as a yellowish amorphous powder. It crystallizes from alcohol in colourless prisms, insoluble in water, slightly soluble in ether and in cold alcohol, but freely soluble in benzol and chloroform.

History and Early uses.—This drug derives its name "*Piscidia Erythrina*" from the fact that its characteristic properties were first revealed in its effects on fish (*piscis*, a fish). Dr. William Hamilton claims to be the first to have employed this drug as an internal medicine in therapeutics and was induced to this action by noting its intoxicating effects on fish. The usual method for catching the fish

from streams and rivers in Jamaica by this drug is as follows :—At the time of the full moon in April the bark being detached from the roots, is smashed up with what is termed, in the West Indies, temper-lime and the low wines or lees of the still house, and the mixture distributed into small baskets, from which it is washed gradually out by persons holding the baskets in the water from boats, slowly propelled by oars, or stationary in some small bay ; this causes the active principle to be extracted and spread out into water, which causes the fish to be stupefied and rise to the surface where they float as if dead ; most of the large ones recover after a time, but the smaller fry are destroyed. Subsequently the bark of the root was tried by Dr. James Scott, England, who says :—“ Some years ago, my respected colleague, the late Dr. McGrath and myself, being then in charge of the public hospital and lunatic asylum of this city, it was thought desirable, in the treatment of a certain class of patients in the latter institution, to test the power of the Jamaica Dogwood as a sedative and narcotic. This determination was come to in consequence of the failure of morphia and other preparations of opium, as well as several known sedatives, to produce the desired effect, more particularly in those cases where there was considerable excitement or restlessness. Of the bark of these roots a tincture was prepared according to the formula recommended by Dr. W. Hamilton, of Plymouth, England. It may be repeated here : “Macerate an ounce of the bark in coarse powder, in four fluid ounces of rectified spirit for twenty-four hours and then filter. The dose is a fluid drachm.” The medicine in the dose suggested was prescribed for lunatics, who were in a state of excitement, and who, under the use of ordinary narcotics that were given in full and repeated doses, could obtain no sleep. When administered the effect was most remarkable. In some cases sleep was soon produced ; on waking the patient was comparatively tranquil and quiet, whilst in others of a rather more severe character, it was necessary at short intervals to repeat the dose, until the narcotic effect of the medicine was manifest.

I write from memory, but the good results of this powerful and valuable narcotic were invariably apparent, and most certainly after its use for a few days there was marked tranquility of the patient, and an improvement in his condition.

Physiological actions.—(1) *Piscidia* when taken internally causes a hot flush over the whole body, produces dilatation of the pupils, general diaphoresis and slight salivation. (2) By increasing the dose the eyes look wild and staring, laboured breathing results and pulse decreases. (3) This is followed by disturbance of vision and merges into a state of obliviousness, which lasts for several hours. (4) It is a narcotic to higher as well as lower animals. (5) It does not affect the motor nerves. (6) It does not attack the peripheral ends of sensory nerves. (6) It reduces reflex action by a stimulant action on the centres of Setschenow. (7) It reduces the action of the heart, producing general paralysis and death by asphyxia. (8) It does not affect the heart rhythm, the temperature or peristaltic action &c.

Piscidia Compared with other Narcotics:—(1) The action of *Morphia* and *Piscidia* are somewhat similar; like *morphia* it produces somnolence and paralysis; unlike it, it dilates the pupil. In *Morphia* poisoning the eyes are contracted and excited: under the *Piscidin* they become dilated, and staring. (2) On comparing the action of *Piscidia* with that of *Chloral*, it is found that the former has no dangerous action on the heart like the latter, not such an energetic action like the latter upon the respiratory organ. (3) Compared with *Atropia*, *Piscidia* unlike the former, does not paralyze the motor nerves, it does not paralyze the *Chorda Tympani*; it does not arrest the sudoral secretion; it does not arrest the *Pneumogastrics*, and does not elevate greatly the arterial tension, but like it, dilates the pupil.

Therapeutical actions.—*Piscidia erythrina* possesses the *anodyne* and *hypnotic properties of opium*, but is free from those objectionable after effects, viz., constipation, disturbance of the secretory apparatus and of the nervous system, and liability to the formation of a *habit* which are characteristic of opium. Although its anodyne properties are rather less powerful than those of opium, yet its hypnotic action is more decided, and in a large majority of cases it is a reliable substitute for opium and proves quite efficacious. It is not really speaking a narcotic, but simply *soporific and calmative to the nervous system*. It produces profound and refreshing sleep without any tendency to produce congestion of the brain as opium does. In extremely painful affections it is not sufficiently anodyne in its action to effect the desired

results, yet it exerts an anodyne influence so pronounced that it may serve as an useful adjuvant or alternate to, and in a majority of cases, a substitute for, the preparations of opium. It is beneficially employed in a large number of mental and nervous diseases and painful and neuralgic affections of various parts of the body, where relief from pain, and sleep are essential indications. All these are described clinically as follows :—

(1.) *Mental Affections.*—*In certain forms of psycho-neuroses, and in primary delusional insanity, certain phases and symptoms present themselves that can be alleviated by this remedy.* An elderly lady had a mental trouble for months, had delusions and was partially demented; she could not sleep and this condition lasted so long that she had worn out all the members of immediate family from anxious watching; many remedies were tried with indifferent and unsatisfactory results, until piscidia was given, which seemed to have a most charming effect upon her. The dose administered was 20 drops of fl. ext. at 4 p. m. and a second dose of 15 drops was given about an hour and a half after. In one other case of mental diseases, *monomania with sleeplessness*, it quited the patient and gave refreshing sleep. Dr. H. K. Wells, Erie, Illinois, reports most favourable upon the use of the fluid extract of “*piscidia erythrina*” in one dr. doses in syrup, at bedtime, in the treatment of a case of a hysterical mania, where all other treatment had failed. The dose was ordered to be repeated every four hours until quietude or sleep ensued. The treatment was commenced on the 2nd of October two doses being given that night. On the 5th of October a vast improvement in the patient’s condition was noticed, and by the 7th Dr. Well’s services were dispensed with.

Drs. J. Scott and M. Grotz have used the remedy in psychiatric practice successfully (*Vide* History and early uses). Lastly, a female was subjects to fits of insanity, preceded by restless nights; was compelled regularly to take morphine, chloral and the bromides to get any rest. Digestion was impaired and constipation was the result. Jamaica Dogwood was given daily at bedtime, which produced quiet refreshing sleep and constipation gradually disappeared.

(2.) *Affections of the Nervous System.*—It can be used in congestion of the brain and other nervous diseases. Its action is not so lasting as that of opium and hence the doses should be repeated at shorter intervals. It was used in two cases of spinal irritation and in one marked case of neurasthenia both attended with almost constant pain. For the relief of this symptom various sedatives had been used and with the exception of opium all had failed. But its disagreeable after effects had made its administration a dread to the sufferers. *Piscidia* was employed with gratifying results and without being followed by disagreeable symptoms of opium.

(3.) *Neuralgic Affections.*—(a) *Trifacial Neuralgia*: *Piscidia* is almost a specific in obstinate cases of *hemicrania*, *tic douloureux*, &c. E. H. Harris, M. D. gives the following account of a case of neuralgia:—Last week there came under my care an inveterate case of neuralgia, which had been treated by many, very many physicians, to no purpose. I found the lady in the commencement of one of her periodic seizures, and the assertion of both her husband and herself that she could not be relieved short of several days, discouraged me from attempting anything by way of curative treatment during the paroxysm. I however, put her on Jamaica dogwood, and agreeably surprised both the patient and myself by securing perfect relief from the pain in twenty minutes. She fell asleep soon after and had a good night's rest. The continued use of the remedy has kept her easy since the first, a something which never before happened in her case, the pain always continuing at its height during the paroxysm. Another case has been reported by F. T. Montague, M. D. as follows:—Some months since I received a sample of the Jamaica Dogwood, which I gave a fair trial in a case of facial neuralgia, and found it to work charmingly. The patient was a lady 50 years of age. I found the patient with her hand to her face suffering most agonizing pain, as she had been for some days and every day growing worse. I gave her as follows:—

R Bromide potass., oz. ss., Fluid ext. Jamaica Dogwood, oz. ij.,
Syrup, q. s. ad. oz. jv. M Sig., one teaspoonful every hour
until four doses were taken.

She was entirely relieved. The pain returned periodically every afternoon. I ordered the same dose repeated during three days, the pain each day growing lighter, and on the fourth day she was entirely free from pain, and has had no return since—six weeks ago. She had a similar attack a year ago in which she tells me her physician kept her entirely under the influence of morphia for six weeks, until she wore the disease out.

J. N. Fearn. M. D. successfully prescribed, in a case of severe neuralgia of the face and head in which the pain was terrific, as follows:—R Tr. gelsem., dr. ss., Fl. ext. piscidiæ erythrinæ, dr. iij., syr. rhei et pot. ad oz. iv., M. Sig.—oz. i every hour till relief comes.

The result was most pleasing, this formula with a little quinine to overcome periodicity completed the cure; the case had been running some time. (b) *Piscidia* has also been beneficially employed in cases of cervico-brachial, lumbar, and other neuralgias. (c) *Renal Neuralgia*:—One week ago I was called to prescribe for a case of neuralgia of the right kidney; the pain came on spasmodically, and was so severe that it drew the man double: it very much simulated the passage of a renal calculus. The kidneys had been doing their work very scantily. I prescribed:—R Fl. ext. piscidiæ erythrinæ, Fl. ext. barosmæ, aa dr. iv., Syr. rhei et pot., oz iij. M. Sig.—dr. i and repeat as per instructions.

In this case I ordered hot packs to the painful part. The man, living alone, had no convenience for packs, so he depended on the medicine. Result satisfactory. I could multiply cases but there is no need. Suffice it to say that to allay pain or produce sleep it can be used in doses of from ten drops to one and a half drachms.

(d) *Sciatica*: Similar beneficial results follow its administration in painful cases of sciatica. J. Blackberry reports the following case:—I was called to see Mrs. D., æt. 36, suffering from a long and severe attack of sciatica. She had tried many remedies to alleviate her suffering, but had found no relief from anything taken, except while under the influence of morphia, which drug invariably left her with sick stomach and great nausea and retching. I at once determined to test the virtues of *piscidia erythrina* in her case, to

relieve the pain and procure rest. Therefore prescribed:—R. *Piscidia erythrina*, dr. ss., *Aquæ*, dr. iij.

Mix, and take one draught on retiring for the night, at which hour I saw her. The same quantity to be repeated in one hour. Eight o'clock next morning I called and found the lady resting quietly and free from pain; says she has passed the first comfortable night she had passed for several weeks; no pain, no sickness of the stomach, and a fair appetite for her breakfast. Rev. H. Brodnax, M. D. says: "It is almost a cure for sciatica; I tried it in my own family first, and it acted so well that I have used it frequently since in several families, and with uniform success.

(e) *Nervous Headache*: Dr. Elmore Palmer notes the results obtained in the case of his own wife, who suffered from most obstinate attacks of nervous headache, a legacy inherited from her father. Treatment of every description had failed to give relief. The effect of the fluid extract of Jamaica Dogwood was immediate, given in a teaspoonful dose. Whenever she is now troubled with a tendency to the recurrence of one of these attacks, a dose of the extract at once disposes of it, and peace and happiness reign in the doctor's household.

(4.) *Delirium Tremens*:—In cases of delirium tremens it also meets every indication of cure. In several cases of delirium tremens, and insomnia from alcoholism, best results have followed by administration of fl. ext. of *piscidia* in one drachm dose at bedtime after failure with morphia, bromide, chloral, &c. (*Vide* Alcoholism P. 419).

(5.) *Dentistry*.—The prompt action of this remedy renders it valuable in relieving toothache, and mitigating the suffering during the extraction of teeth in which, anæsthetics are not admissible. Dr. Hamilton's first trial in 1844 perfectly confirms this. He suffered from violent toothache which nothing would allay. After applying the tinct. of *piscidia* on cotton-wool to the tooth, marked relief took place. This induced him to take internally a few drops of the tincture after which the pain perfectly ceased and profound sleep ensued. J. J. Mulheron, M. D., gives the following account of odontalgia in his own person:—

I had suffered a good deal of pain from a carious tooth, and had lost a night's rest through the tormentor. The pain suddenly left in the morning while I was on my way to the dentist's, and as it did not recur during the day, I temporarily changed my determination to have the tooth extracted. At nightfall, however, the pain returned with redoubled violence. Having a sample of the fluid extract of Jamaica Dogwood in my office, I saturated a piece of cotton wool with it and applied it to the cavity. The relief was almost immediate, and continued through the night.

Lastly, F. T. Rouse, M.D., gives the following interesting account :—Mr. E. F. came into my office and requested me to extract several teeth. She, though a large and apparently healthy woman, was greatly excited, and refused to even have the teeth examined. She took half a teaspoonful of the fluid extract of dogwood, rubbed the gums with it, and then quietly submitted to the extraction of four teeth. She reported very little suffering. I have since this, in a number of cases, caused patients to rub their gums with this medicine a few minutes before extracting a tooth. They all state that the pain is much less than without anything.

(6.) *Hypnotic*.—As an hypnotic this drug certainly has qualities which entitle it to rank next to opium, while it possesses the very great advantage over opium of not causing any of those disturbances which are so great an objection to the use of the latter—the cephalalgia, nausea, restlessness, disorders of the digestion, &c. The sleep which it secures is natural and refreshing, resembling the physiological sleep more than that caused by opium, and one which could be a veritable pathological sleep, according to the expression of Dr. Huchard. It has done good service in case of *insomnia of neuropathic origin and of anæmic patients, in sleeplessness in old, insane, and delicate nervous patients, in sleeplessness, from mental strain, and due to nervous exhaustion, and worries and anxieties of life*. 93 patients were thus treated for insomnia with solid extract in doses of 2 to 4 grs.; sleep was produced in from half to one hour, and it was uninterrupted throughout night; of the fl. ext., one drachm is usually sufficient to produce sleep.

(b) *Opium Habit*: It has been used to relieve pain in persons who had acquired the habit of taking large and frequent doses of opium and has been found to act admirably as a substitute for that drug.

(c) *Alcoholism*: It is likewise a good soporific for those who are addicted to alcoholic drinks and who are unable to obtain sleep without the aid of such stimulants. It is also a good hypnotic in the delirium of certain infectious pyrexias which manifest themselves in subjects given to the excessive use of alcohol. One dr. of the fl. ext. is sufficient to produce hypnotic effects in a majority of cases, but in weak and delicate patients it should be commenced with $\frac{1}{2}$ dr. and be increased to $\frac{3}{4}$ dr. up to 1 dr. which is a right hypnotic dose for an adult.

(7.) *Respiratory Affections*.—(a) *Phthisis*.—Dr. Leopold Patek recommends fluid extract of Jamaica Dogwood in doses of 3 to 6 grams per day in drops, or in form of mixture with 200 parts of water and some syrup, as effective against the prolonged attacks of cough of phthisical patients. It has been found of great service in phthisis, causing a diminution of night-sweating and also of cough, without any unpleasant accompanying symptoms. The effect on the sweating was still more marked when atropine was given in conjunction with it, and only after some weeks were the pupils markedly affected. (b) Drs. Seifert and Dujardin-Beaumetz use piscidia also in affections of the respiratory organs, in *bronchitis*, and *tuberculosis* especially when patients on account of coughing are prevented from sleeping. The results are however, not above criticism. The improvement in sleeplessness goes, nearly always, hand in hand with an improvement in the condition of the lungs.

(c) *Whooping-Cough*.—There is no disease in which the treatment of the present day is more unsatisfactory than whooping cough. Although piscidia is not a specific in this complaint, yet it to a great extent relieves the spasms and gives some rest to the sufferer which will be found from the following report by W. R. Alexander.

Pertussis being epidemic last fall, as well as at the present time in this city and surrounding country, I was led to make some experiments in the treatment of it with the fluid extract Jamaica Dogwood, my attention have been arrested by the prompt and peculiar effect of the dogwood in cough and bronchial troubles generally, in which I had many opportunities of prescribing it. The effect in whooping cough was quite satisfactory, and it proved quite a specific in a number of

cases. I now order it for a patient with as much confidence in its prompt result as I do quinine in malarial affections. It seems to control the reflex irritation of the branches of the pneumogastric nerves which produces the spasms ; and it cannot be excelled in pulmonary complications. Of course, where it is necessary, the little patient's strength must be sustained by stimulants, nourishment, etc. I give it to children at all ages and in any stage of the fever. The initial catarrh, the conclusive and the final catarrhal stages were all decidedly benefited, the spasmodic effects being in many cases aborted. It can be administered in any expectorant syrup or mixture.

(d) *Asthma* :—Piscidia, although possessing no specific anti-asthmatic qualities, is yet useful as an antispasmodic and sedative in severe cases of asthma. * We have employed Jamaica Dogwood in three cases of asthma, one a very severe one, with whom all other remedies had failed ; was put upon five minims t. i. d., and subsequently ten minims. He improved remarkably fast, so that he did not have to put his head out of the window to get his breath, as he was wont to do before. He was ultimately cured. The other cases were less severe, but improved nicely under its use.

(8.) *Rheumatism*.—In rheumatism, as in neuralgias, Jamaica Dogwood is of great service. A man æt. 35, was suffering from acute articular rheumatism, affecting principally the knee and hip joints. He was unable to turn in bed without great suffering. 15 mins. of the fl. ext. every 2 to 8 hrs., kept him quite comfortable till the disease yielded to the ordinary remedies. Another case was suffering from acute rheumatism, with temp. 102° F, pulse 120 ; bowels constipated ; complained of great pain and dull headache ; bowels constipated ; he had been taking quinine and morphine in powders, with no benefit ; Salicylic Acid and Jam. Dogwood were substituted for the former with apparent benefit ; the piscidia was given in the evening at an interval of half hour in 12 to 15 drop doses.

(9.) *Ophthalmic Affections*.—* It has been asserted that Jamaica Dogwood has not the power to relieve pain, but any person who has ever treated *panophthalmitis*, *irido-cyclitis* and *iritis* will know that patients suffer the most excruciating pain, and just in this class of cases I

* Clint. B. Herrick, M.D., Resident Physician and Surgeon of Albany Hospital.

have tried it at the dispensary of the Medical College of Ohio, putting it to the most severe test possible, with the happiest results. To give the reader an idea in what class of cases the drug was prescribed and the dose necessary to produce the effect, I append the following history of cases. The cases have not been selected for the purpose of making a good report, but taken just as they presented themselves for treatment at the clinic.

CASE I.—Patrick M., æt. 45, made application for the relief of pain in his eye; he was suffering from the effects of an injury to the eye-ball, which caused a general inflammation of all the structures of the eye: panophthalmitis. Patient complained of not having slept for a number of nights on account of the severity of the pain. Jamaica dogwood was ordered in half drachm doses to be repeated every two hours during the afternoon and evening. Next morning patient stated that he had slept until 3 A. M., and felt very much refreshed. The dose was now increased to one drachm every three hours, and the effects were more lasting, but pleasant in every respect.

Case 2.—J. R., æt. 38, boiler maker by trade, was struck in the eye by a piece of iron from a steam shears, five weeks prior to his application at prof. Seely's clinic. During the five weeks the patient had been treated by a homœopathic physician, who had prescribed sulphate of morphine for the relief of the almost intolerable pain that the patient was suffering in consequence of an irido-cyclitis that had been set up by the injury. Morphia was discontinued and fluid extract of Jamaica Dogwood in teaspoonfull doses was ordered to be taken as often as necessary to control the pain. Patient took two doses in the morning and slept quietly all afternoon; it was repeated and he slept all night making his appearance at the clinic with a bright face, and feeling very much refreshed after the sleep he enjoyed the previous night.

(10.) *Otology*.—The same observer has administered it in five cases of acute abscess of the auditory canal in doses that were increased to one teaspoonful when necessary repeated every 2 or 3 hours, with results that are far better than the average results obtained from opium, when only the anodyne effect is considered, and it never

* C. W. Tangeman, M.D., of Cincinnati, Ohio.

left the nervous system in such a deranged condition as we find it after the latter drug.

(11.) *Gynæcology and Obstetrics*.—(a) *Labour*: Fl. Ext. Jam. Dogwood is an excellent substitute for either opium and chloral in controlling the *nervous irritability dependent upon the preliminary contractions of the uterus in labour*. It should be given in 20 to 30 drop doses, repeated hourly. Lessona reports 100 cases in which he administered *piscidia erythrina* either in *threatening abortion or during the first stage of labor*. Prompt relief of excessive pain was experienced in 71 per cent. of the cases. For the sake of comparison, opium was given to 96 other patients, with a similar result in 80 per cent. of the number. It does not interfere with the progress of the labor, but rather helps it by dulling sensibility, like chloroform somewhat. (b) *Dysmenorrhœa*. In cases of dysmenorrhœa, 15 mins. of fl. ext. of *piscidia* with 30 mins. of fl. ext. *viburn. prunifol.* given t. d. until the next menses, has been beneficially employed. (c) *In cases of pains due to uterine displacements, cellulitis, ovarian neuralgias, lumbo-sacral neuralgias in females, &c.* good results have been obtained by its employment especially in the following combination called "*Liquor Sedans*":—R. Ext. *Piscidiæ* Fl., mins. 15, Ext. *Vib. Prn.* Fl. mins. 30, Ext. *Hydrast. Can.* Fl. mins. 30, *Aquæ* ad oz. 1; M. To be given every 2 or 3 hrs. (c) A case of cancer, after failure with codeia and other anodynes, was treated with marked benefit with fl. ext. *piscidia* internally.

(12.) *Enteralgia*.—Cases of enteralgia or severe pains or cramps of the bowels have been relieved by one or two doses of dr. of the fl. ext. Here opium is likewise useful, but owing to its constipating effect on the bowels and thereby impeding rather than expediting the removal of irritating matters, it is not serviceable.

(13.) *Burns*.—*Jamaica Dogwood is an excellent application for burns from hot steam or boiling water. The mode of application is to saturate a cloth with the fluid extract and bind it loosely on the burnt parts. Keep moist by frequent applications. The "fire" will be found to be out in a few hours. Old linen makes the best bandage.

* S. Shepherd, M.D.

(14.) Lastly it is indicated in renal and muscular pains, pains due to tumours, phantom, inflammatory and uterine, spinal irritation, &c. With this I close the description of this reliable narcotic and sedative agent of new materia medica, recommending my professional brothers without any hesitation to use it and judge of its beneficial effects.

Preparations and Doses.—Powdered root-bark, 10 to 60 grs.

Fl. Ext., $\frac{1}{4}$ to 2 fl. drs.

Solid Ext., 2 to 10 grs.

Tr. (1 to 4 Rect. Sp.), 20 to 60 mins.

Piscidin, the active principle, $\frac{1}{8}$ to $\frac{1}{4}$ gr.

JAMBUL.

EUGENIA JAMBOLANA; SIZYGIUM JAMBOLANUM,

Syn.—*Jambúr* (Guj); *Jámbùl*, *Kàlà Jambur* (Bom.); *Jàmun* (Hind.); *Kàlà Jám* (Beng); *Jambu* (Sans.); *Navel* (Tam).

Parts used.—*The Bark and Fruit (Seed).*

N. O.—*Myrtaceæ* *Habitat.*—*India.*

Characters.—A large tree, with oblong, acuminate, shining leaves, having a deep green color and an aromatic odour and taste. Bark, thick, grey and fissured externally; reddish, soft and fibrous internally; taste aciduous and strongly astringent. The fruit, oblong-ovate, i.e., about the size and shape of an olive, of a purple colour; edible; taste, slightly acid-sweet and astringent, and imparting a dark hue to the lips and tongue when eaten. The seed, when fresh is of a pinkish hue; when dry, it is brown and oblong-ovate in shape, rather resembling miniature kidney potatoes exteriorly; testa thin and papery; enclosing a large bright green hard kernal, having an aromatic and astringent taste.

Therapeutical properties.—The bark, leaves and seeds possess astringent properties. The fresh juice of the leaves combined with other astringents, has been employed by the natives in cases of diarrhoea and dysentery. The bark is strongly astringent and in the form of decoction, either alone or combined with other vegetable astringents, is useful in cases of diarrhoea, dysentery, and other

excessive mucous and sanguineous discharges; powdered and mixed with milk-curd it is used by native women in menorrhagia. Externally in the form of a paste with water it is employed over swollen and inflamed parts, and in the form of decoction it forms an astringent gargle for stomatitis and spongy gums; and as an injection in leucorrhœa. The juice of the ripe fruit possesses diuretic, stomachic and refrigerant properties and is recommended in suppressed or scanty urine.

Recently the Jambul seed has been recommended in *diabetes*, and it is owing to this property that it has been added to new *materia medica*. The use of the powdered seeds diminishes the amount of urine secreted and also the amount of sugar, this property being due to its remarkable power of preventing the transformation of starchy matter into sugar. Drs. A. E. Balfour and S. Woodhead, of Edinburgh, have lately repeated Lascelles—Scott's experiments on the action of jambul upon mixtures of starch and diastase their results confirming in all respects with those of others. These results have been secured by using the fresh seeds carefully dried or by employing a fluid extract prepared from the fresh seeds; great care is requisite in drying these seeds because when not properly and carefully dried, they soon get decayed and inert. During treatment by jambul, there is, therefore, no occasion for the patient to abstain from starchy food.

Dr. E. H. Fenwick thus summaries the results observed in his experience with Jambul :—

“Cases presenting sloughing ulcers of diabetic origin, or accidental wounds in diabetes, refusing to heal under any application or treatment gave these results: water diminished; sugar decreased; ulcers filled in and wounds granulated and healed. It has been employed of late by Mr. Mohamed of Bourne-mouth, in the treatment of diabetes accompanied by much cerebral excitement, with very satisfactory results. A certain degree of depression seems to have been caused by the drug, in addition to its rapidly diminishing the formation of sugar. Dr. Geo. C. Kingsbury, of Blackpool has lately given powdered jambul in a case of diabetes of six months duration in which there was great emaciation

prostration, thirst, a ravenous appetite and great restlessness. Urine had a sp. gr. of 1040-42, and from 7 to $7\frac{1}{2}$ quarts were passed in the 24 hrs. He gave powdered seeds in five-grain doses six times a day for a fort-night, at the end of which period the patient was able to get up and walk about for an hour at a time, with no thirst nor abnormal hunger; urine was reduced to 4 or 5 quarts, of a sp. gr. of 1020; he slept well and felt strong. During the time the patient was taking the Jambul his diet was not in any way restricted. Out of four cases of diabetes treated by Dr. Cauldwell, there was success in three and failure in one case. He also narrates two cases under the care of Drs. Keyes and Alexander, in one of which jambul failed. So the action of Jambul cannot as yet said to be specific in every case of diabetes, as it has failed in the hands of some practitioners.

Preparations and Doses.—Powdered Seeds, 5 to 10 grs, increased up to 40 grs.

Fl. Ext., 1 to 2 fl. drs.

Powdered Bark, 5 to 10 grs.

JATAMANSI.

NARDOSTACHYS JATAMANSI, D. C. VALERIANA JATAMANSI, *Lamb.*

Syn.—*Jatàmànsi* (Bom.); *Balu Chhàra* (Hind). *Jeta manasi* (Mah); *Sumbul-ul-hindi* (Pers.); *Sumbul-ul-aspire-hindi* (Arab); *Indian Spikenard*, *True Indian Nard* (Eng.)

Part used.—The Rhizome. N. O.—*Valerianacæ.*

Habitat.—Alpine Himalayas, from Kumaon to Sikkim.

Characters.—The rhizome is of a dark grey colour, consisting of a bundle of reddish brown fibres at its lower part and scaly above, the whole resembling in appearance to the tail of a sable, and in size and shape it is much like the tuber of *Cyperus Hexastachyus* (*Nágur motha. guj*). The hairy fibres are matted together in a kind of network which entangles the remains of flower-stalks. Odour heavy and peculiarly fragrant, very much like that of *Valeriana Hardwickii*; taste aromatic and bitterish.

Therapeutical properties.—Jatamansi possesses aromatic stimulant, antispasmodic, nervine tonic, diuretic and emmenagogue properties. From a very remote period it has been in use among the Hindus as a perfume and household medicine. It has also been employed by the hakims and vaidas in the treatment of epilepsy, hysteria and convulsive disorders, and in this class of cases there is reason for regarding it as a remedy of considerable power and an efficient and reliable substitute for our Valerian root. As a nervine tonic it is best indicated in hysteria. It is also employed in disorders of digestion and as an expectorant in bronchitis, catarrh, &c.; Some recommend it in jaundice and as an antidote for poisons, but this has not been sufficiently proved to warrant it as such. There is a popular belief that it promotes the growth and blackness of the hair when locally applied, and is, therefore, employed in the preparation of hair washes and liniments for scenting and cleaning the hair. An oil has also been extracted from the rhizome by the natives for the use in medicine.

Preparation and Doses.—Powdered Rhizome, 5 to 40 grs.

Tr. (1 to 8 Pf. Sp.), $\frac{1}{2}$ to 2 fl. drs.

JATROPHA CURCAS.

CURCAS PURGANS.

Syn.—*Physic nut*, *Purging nut* (Eng); *Mogalai eranda* (Bom.); *Bagbheranda* (Hind.); *Kānana eranda* (Sans.); *Banabheranda*, *Ratanjota* (Beng.); *Katamunak* (Tam.); *Dandénahri* (Arab).

Parts used.—The Seeds, Juice, Leaves, and Oil.

N. O.—*Euphorbiaceæ*.

Habitat.—Tropical parts of Africa, America, and India.

Characters.—A soft wooded evergreen shrub, abounding in milky viscid juice which forms a lather like soap; stem rounded; leaves 3-5 lobed, green and smooth, and connected with long round petioles. The fruits, of the size of walnuts, three-angled with six striæ, greenish in colour, containing three seeds and are three-celled. The seeds, oblong-ovate, compressed, dark coloured and larger than those of castor oil; they yield 30 p. c. of the oil.

Therapeutical properties.—The milky juice of the plant possesses *styptic or hæmostatic properties*. This property was first brought to notice by Baboo Uday. In two cases it was found effective; in one case there was a bleeding from a vessel within the cavity of an open abscess, and in another case, there was hemorrhage following an incision made for the purpose of extracting a broken piece of bougie from the urethra; in both local application of fresh juice had the effect of immediately arresting the bleeding, although alum, turpentine and perchloride of iron had failed; it does not cause pain or act as a caustic, but simply curdles the blood and covers the bleeding surface with a tenacious fluid thus acting like collodion. It is thus a specific in checking hemorrhage from wounds and bleeding surfaces; it is also useful for ulcers. The juice also possesses parasiticide properties and has been used as such in *itch, herpes and ringworm* and as a stimulant application over rheumatic parts. The seeds possess purgative and vermifuge properties and in large doses are emeto-cathartic; but the fixed oil obtained from these seeds is more convenient for medicinal purposes; it has an almond like taste and has *powerful purgative properties*, 15 drops being equal to one ounce of castor oil; it has been employed in constipation, worms and dropsical affections; externally it acts as a stimulant, and is used like the juice of the plant as an insecticide in skin diseases as above said. Externally the oil is used in India as a local application to increase the secretion of milk; A poultice of the leaves is used by the natives of the Cape Verde Islands to excite secretion of milk. The oil is also used for burning.

Dose.—Oil, 3 to 15 mins, if employed internally.

JATROPHA MACRORHIZA, Benth.

Syn.—*Jicama, Jicomia* (Span).

Part employed.—*The Root* N. O.—*Euphorbiaceæ*.

Habitat.—*Notthern Mexico and Southern States adjoining.*

Characters.—A plant, about a feet or so high from a very thick short tuberous root, with an erect herbaceous stem. Leaves 3-5 palmately lobed, cordate, the lobes oblong-lanceolate, laciniate and

toothed, the teeth very acute and pointed with a bristle, glabrous; cymes densely many-flowered, short peduncled, the alar one of the primary usually fertile, the other staminate. Seeds oblong, light brown, with purplish spots, with a large hood-like, cut-fringed caruncle.

Therapeutical properties.—*Jatropha macrorhiza* possesses alterative, cholagogue, and hydrocathartic properties. Unlike most vegetable purgatives, is pleasant or rather comparatively tasteless; on account of its tastelessness and smallness of the necessary dose, it is a good addition to all non-cathartic mixtures, where a cathartic tendency is desired. In its effects, so far as it has yet been tested, it resembles in action the active vegetable substitutes for mercury, such as *Leptandra Virg.*, and *podophyllum*, &c. It is highly purgative, and in over-doses causes a diarrhoea, which, however, yields to mild treatment, amongst the Mexicans, such as flour gruel, &c. The seeds and root of this plant have been long in use by the Mexicans as a household remedy in much the same indications that castor oil is with us.

All the members of the genus *Jatropha* are more or less purgative in their action and they are all employed when such effect is desired by the natives of the tropical and sub-tropical countries of their distribution.

Preparation and Dose.—Fl. Ext., $\frac{1}{2}$ to 2 fl. drs.

JUGLANS CINEREA, J. ALBA.

Syn.—*Butternut*; *White Walnut*.

Part used.—*The inner bark of the Root.*

N. O.—*Juglandaceæ.* *Habitat.*—*America.*

Characters.—In flat or curved pieces, from $\frac{1}{8}$ to $\frac{1}{4}$ inch thick; the outer surface nearly free from soft cork; deep brown; the inner surface smooth and striate; transverse fracture short, delicately checked, whitish and brown; odor feeble; taste bitter and somewhat acrid.

Therapeutical properties.—It has cholagogue, laxative, deobstruent and diuretic properties; in large doses it is emetic and

cathartic. The bark is an excellent mild cathartic resembling rhubarb in its action ; it excites the liver, strengthens the digestive organs, operates without griping and does not leave the bowels costive, as many other cathartics do. It is indicated in dyspepsia, piles jaundice, hepatic and cutaneous disorders, habitual constipation, diseases of the urinary apparatus and visceral derangements. It is of exceeding value in the treatment of fevers attended with gastric and enteric irritability and leaves the bowel in a soluble condition. The inner bark laid on the skin will excite a blister.

Preparations and Doses.—Powdered Bark, 20 to 60 grs.

Fl. Ext., 1 to 2 fl. drs.

Solid Ext., 3 to 10 grs.

Juglandin (concentration), 2 to 5 grs.

JUGLANS NIGRA.

Syn.—*Black Walnut.*

N. O.—*Juglandaceæ*

Part employed.—*The Leaves.*

Habitat.—*North America.*

Therapeutics.—It is an alterative and depurative, possessing marked powers in the treatment of all scrofulous and cachectic affections ; syphilitic affections and squamous diseases of the skin soon yield to the effects of an infusion of the leaves. Chronic ulcers of the indolent kind have been cured with this remedy after every other remedy has been exhausted without benefit.

Preparation and Dose.—Fl. Ext. of the Leaves, 20 to 30 mins.

JUGLANS REGIA.

Syn.—*Indian or Common Walnut, Candleberry Tree (Eng); Akharota (Hind and Guj); Japhala (Bom.); Charmaghz (Pers).*

Part used.—*The Oil* *N. O.*—*Juglandaceæ.*

Habitat.—*Native of the countries between Greece and Cashmere ; grows wild in the Himalayas ; naturalized in the western parts of Europe.*

Therapeutical properties.—The seed of this plant is our well known edible walnut. The bark has cathartic properties. The leaves

are useful in scrofulous and rachitic diseases. The husks of fruit or pericarp possess vermifuge and antisiphilitic properties. The kernal is said to posses aphrodisiac and vermifuge properties. A clear oil is expressed from the seed, which possesses mild laxative and cholagogue properties; it is of a drying nature like linseed oil and is thus useful for paint; also used for culinary purposes and for burning in lamps.

JURUBEBA.

SOLANUM PANICULATUM.

Part used.—*The Leaves.* *N. O.*—*Solanceæ.*

Habitat.—*Western Brazil.*

Characters, &c.—A bushy shrub, growing from 4 to 6 or 7 ft. high; the branch presents a rather remarkable appearance, being covered with a white down. Stem, thorny; the leaves, serrate cordate, smooth on the upper side, and almost coriaceous, but very hairy underneath. All parts of the plant contain mucilage and a bitter alkaloid, *Jurubebia*, which is the active principle of the plant.

Therapeutical properties.—The drug is credited with possessing alterative, antispasmodic, antibleorrhagic, diuretic, tonic, hydragogue and purgative properties. It is a mild but extremely useful purgative, diuretic and hydragogue in cases of *jaundice and dropsy*. It is also chiefly beneficial in cases of *constipation, acute and chronic affections of the liver and spleen, spermatorrhœa, blenorragia and affections of the skin*. The crushed leaves have exercised a beneficial effect on the cicatrization of wounds and ulcers, when applied externally.

Preparations and Doses.—*Fl. Ext.*, 5 to 30 mins.

Leaves, in the form of infusion, 1 dr.

N. B.—Under the name of *Jurubeba* or *Jerubeba*, the *Solanum Manimosum* is also known in South America, and which is actively poisonous.

KAIRINE.

Syn.—*Hydrochlorate of Oxychinoline-Ethyl.*

Characters.—An alkaloid obtained by synthesis from coal tar, and occurring in white crystals soluble in water, with a bitter nauseous taste.

Therapeutics.—It is a powerful antipyretic. In doses of 30 to 50 centigrammes given in a fever of modern intensity every hour or hour and a half lowers the temperature from the first dose and after the third or fourth dose brings it to normal point with profuse sweating. By repeated gramme doses of Kairine, the normal temperature may always be attained. Kairine like other antithermic agents, is not capable of shortening the disease or altering the symptoms. Discoloration of the urine sets in about 12 hours after the employment of the drug and lasts generally about 24 hours. Kairine however given in hourly doses of 1 gramme after four doses has a more powerful and constantly antifebrile effect than quinine in doses of one and a half to two grammes. Cases of pneumonia, measles, phthisis, typhoid fever, scarlatina, pleurisy, peritonitis, erysipelas, ague and septicæmia were treated with it, without producing after-effects such as headache, buzzing in the ears, vomiting, &c. Kairine was the first antipyretic introduced by professor Filhne, but it has now been entirely displaced by other new antipyretics.

Dose.—7 to 15 grs; 30 grs. is a maximum dose.

KANDOL.

Characters.—A product formed by the distillation of naphtha; is a perfectly clear and colorless fluid, extremely volatile, easily inflammable and smelling slightly of benzine. It can be mixed with a small quantity of water or alcohol.

Therapeutics.—It is a new anæsthetic and is used in the form of a spray. After the application of its spray within one minute, it will reduce temperature of the part to -10°C and will keep it pretty uniformly at that temperature for some time, while ether reduces

the temperature to—17°c. The skin becomes very hard *and is completely anaesthetised* and there is either no bleeding at all or else blood coagulates as soon as it makes its appearance, so that all operations may be performed with great ease and rapidity.

KAOLIN.

Syn.—China Clay.

Characters and Composition.—It is a decomposed Felspar contained in ancient stratified rocks, which by the action of carbonic acid of the air suffers complete decomposition and gets converted into a soft friable mass of earthy matter. The different kinds of clay are the mineral deposits from the disintegration of felspathic rock. They are, besides kaolin, as follows :—

(1.) *Red Bole or Ochre (Geru Māti. Guj)*, which is a Silicate of Alumina and Oxide of Iron. (2) *Bole Armeniac (Gule Armani Guj)*, which is Silicate of Alumina, Magnesia; and Oxide of Iron. (3.) *Mooltani Mati and Gopichandan (Guj.)* are both varieties of *Bole Armeniac*. (4.) *Pipe clay (Khadū. Guj)*.

Therapeutical properties.—(1.) *Fevers* :—In the district of Riazone the peasants employ a mixture of clay and vinegar as a cooling local application in fevers.

(2.) *Aneurism* :—The Russian surgeons as well as the celebrated Pirogoff often employed clay with success in the treatment of Aneurism. Prof. Botkine also used this same remedy in cases of aneurism of the thoracic aorta, in neuroses of the heart and in the treatment of the disagreeable epigastric pulsations in hysteria. After an application of a paste of clay to a pulsatile tumour, there follows not only an improvement in the subjective condition of the patient (diminution in the asthmatic symptom and cardiac pain) but also in the objective condition; the tumor diminishes in volume and pulsation becomes more feeble.

(3.) *Hysteria* :—So also there is reduction of epigastric pulsation in hysteria after the application of a paste of clay, which at the same time also causes a notable reduction in intensity of the other disturbances of the abdominal organs; the vomiting, diarr-

hœa and abdominal pains disappear. These results are due to refrigerant action of clay and above all to its metallo-therapeutic properties. In Wologda the women soothe the pains of hysteria by the application of clay to the soles of the feet.

(4.) *Gonorrhœal Epididymitis*.—Recently Dr. Loueachevitch has successfully treated several cases of gonorrhœal epididymitis by the application of clay employing the white moulding clay of sculptors made into a paste with water. A square piece of muslin is covered with it and retained in position by a suspensory bandage. Renew the dressing twice a day. The author assumes that in 10 minutes after the application, the pain is reduced in intensity and soon disappears completely. On the 2nd or 3rd day the swelling rapidly subsides but the treatment should be persisted in for 4 or 5 days. He has treated 26 cases by this method with a prompt cure.

(5.) Kaolin is a good excipient for making pills of Permanganate of Potassium (which *see*).

CIMOLITE.

Syn.—Terra Cimolia ; White Fuller's Earth.

Properties and Uses.—It is a fine and very scarce natural variety of steatite, composed of Silicate of Magnesium chiefly, and reduced to finest powder. It is highly useful as a dusting powder in eczema and is infinitely superior to oxide of zinc, prepared calamine, bismuth carbonate, starch, &c. It is useful in all cases of infantile chafing, for most irritations of the skin and all excoriations.

KAVA KAVA.

PIPER METHYSTICUM.

Syn.—Yaquona, Yangona, Ava-Ava, Kawa.

Part used.—The Root. *N. O.*—Piperaceæ.

Habitat.—Pacific Islands, chiefly the Society, Samoa and Sandwich Islands.

Physiological actions.—Kava root produces complete local ischæmia and anæsthesia of the parts with which it comes into contact, produces reduction of the excitability of the spinal motor

apparatus and besides psychical quiescence. Its action varies with the amount taken. In small doses it generally acts as a mild stimulant, producing a sensation of comfort, peace and felicity; in large doses, it produces intoxication which differs from that caused by alcohol, in being of a silent and drowsy nature (the drinker not being quarrelsome or excited); in still larger doses, this is followed by a happy freedom of cares and a dreamy consciousness or incoherent dreams; the limbs now grow feeble and powerless and the person soon lies down and gradually falls asleep or rather in a condition of somnolency. It is said that in twenty minutes after taking the Kava, a pressing desire to urinate is experienced, the quantity of urine passed is abundant and becomes as limpid and as clear almost as water.

Therapeutical actions.—Kava, which is well known to the travellers as the intoxicating drink of the Fijians, possesses bitter tonic, stimulant, sialagogue, diuretic and blenostatic properties. It stimulates the appetite and digestion, and does not derange the digestive functions and produces neither diarrhœa nor constipation. It has been used from time immemorial by the natives of its habitat in the treatment of blenorhagia, gonorrhœa, gleet, bronchitis, gout, rheumatism and erysipelatous and skin affections. In Europe, the root and its derivatives have come largely into use in cases of blenorhagia, urethritis, gonorrhœa, leucorrhœa, cystitis, catarrh of the bladder, dysuria and all inflammatory conditions of the urinary organs, and the success of the drug is mainly due to its containing an oleo-resin, *Kavaine* or *Lewinin*, which produces an anæsthetic effect on the m. m. of the urinary passages. I give a short clinical description of each of these affections as follows :—

(1.) *Blenorrhagia.*—From the results obtained by the French doctors, it is proved that *Kava* is most useful at the onset of the most acute and inflammatory stages of blenorhagia. The first case referred to is that of a man, æt. 35, suffering from eczema arthritis, nervous debility, and who had been treated for imaginary blenorhagia, which determined acute cystitis of the neck, with inflammatory contraction and most painful spasms. The catheter had to be used several times daily, as no other relieving agent was found successful

the urine was scanty high coloured and contained much mucus and pus. Dr. Sanné prescribed extract of Kava-Kava, in ten-centigramme pills, four per dose being given at first, and increased to six and then eight per day. The effect was marvellous; diuresis appearing on the second day, the urine becoming abundant, clear and free from pus and mucus; the pain diminished, and the patient was cured. Since then four cases of acute blenorrhagia were treated with Kava-Kava pills, which entirely cured the patient in 12 to 20 days. In conclusion Dr. Sanné says that though the time taken to cure is not quicker than other drugs the point in favour of Kava-Kava is that the improvement is speedy, and the pain is reduced simultaneously with the appearance of diuresis. This proves that the remedy is eliminated in the urine which ensures its repeated contact with the inflamed parts. Dr. J. Michel, of Paris, who has treated many cases of blenorrhagia, some chronic, states that he prescribed Kava with great benefit, the discharge disappearing in from 7 to 10 days, and there being no return after a lapse of three months.

(2.) *Cystitis*:—Cases of cystitis have been treated by Kava-Kava with very gratifying results. In a case of an old man (75), who suffered from cystitis of the neck and double orchitis following a chill contracted whilst driving, Kava-Kava, in daily doses of 80 centigrammes in ten-centigramme pills, soon restored the flow of urine, decreased the pain, and brought about a cure of the distressing symptoms. Dr. Brongniart, consulting physician at contrexeville, has used, Kava in the treatment of cystitis (and similar complaints) with good results.

(3.) *Gonorrhœa, Gleet and Urethritis*:—In cases of gonorrhœa both acute and chronic, it is equally efficacious like copaiba or oil of Santal Wood and it never taints the breath nor produces nausea and disagreeable gastric sensations like the latter. Dr. J. Hutchison sends the following notes upon a case of gonorrhœa he has treated with Kava-Kava. Here the Kava was employed in the form of what are called Dr. Fournier's Pills of Kava-Kava, which contain pure oleo-resin of Kava:—

John McF.—æt. 45, consulted me on 21st of January last, complaining of copious yellow discharge from urethra, smarting

during micturition, and aching in penis, perinæum, and loins. He contracted the disease five weeks ago, and he suffered from it ten days before he consulted me. An examination showed that pus was exuding freely from the point of penis, and the urethra could be felt as a hard firm fibrous band all along the lower surface of penis. There was a considerable amount of swelling in and around the glans penis, and the end of the prepuce was so contracted as not to permit of the glans penis being uncovered. There was no orchitis, and not even a feeling of discomfort in the testicles. Three pills to be taken the first day, four the second, five the third, and so on till he was taking twelve pills in the 24 hours. I saw him again in six days, and he told me that though he was much better the discharge was still present, though not nearly to the same amount, and the heat and burning during micturition was much relieved. Erections at night since taking the pills caused him little or no annoyance. I did not see him again for quite some weeks, when one day he called to tell me that he was now entirely cured of his ailment, and that the discharge after continuing the pills and the injection for ten days from his last visit, lessened every day, and in ten days he was well.

Dr. Dezermaux, of Paris, treated a case of chronic gonorrhœa which had not yielded to a year's energetic treatment with the usual remedies. All discharge was stopped in a few days after the administration of the pills and two months after this time no return had occurred. Dr. W. Semple, U. S. A., found Kava-Kava very useful in cases of acute gonorrhœa, gleet, &c. Dr. Olive, of Paris, prescribed the pills to a case of acute urethritis, and from the results obtained states that Kava may be considered a specific in these diseases. I largely prescribe Kava-Kava in cases of gonorrhœa, gleet and urethritis with the same happy results. In acute stage of gonorrhœa it stops urethritis in five or eight days. The quantity of urine passed is abundant and is as clear and limpid like water. The pain that was present during the previous micturitions disappears and a sensation of comfort is experienced in urinating. I use tr. Kava in 20 to 40 min. doses with tr. buchu.

(4.) *Leucorrhœa*.—Kava is beneficial in reducing all inflammatory stages of genito-urinary tract and to suppress the mucopurulent catarrh owing to its diuretic and blenostatic action. It is more suited to such cases, as its use is not followed by derangements of the functions of the digestive organs; produces no vomiting, no diarrhœa, no eruptions on the skin and is not perceptible on the patient's breath.

(5.) *Prostatitis and Enlarged Prostate*.—It is very useful in cases of enlarged prostate as it has a beneficial action on the mucous membrane of the bladder, *producing complete local ischæmia and anæsthesia*; it is also useful in prostatitis.

(6.) It reduces acidity of the urine and is useful in *uric acid diathesis*. It is also useful in *pyelitis*.

(7.) Lastly, Kava-Kava is found beneficial in cases of corpulency, bronchitis, some forms of rheumatism and gout.

Preparations and Doses.—Powdered Root, 15 to 60 grs.

Fl. Ext., 20 to 60 mins.

Solid Ext., 4 to 12 grs.

Tr. (1 to 8 Pf. Sp.), $\frac{1}{2}$ to 2 Fl. drs.

KAVAINÉ, KAWAHIN.

Syn.—*Lewinin*.

Properties and Uses.—An oleo-resin of a semisolid consistence, with an aromatic taste, pungent and hot like pepper. When placed on the tongue there is a momentary burning sensation, increased salivary secretion, which is followed by local numbness lasting more than an hour. Applied to the conjunctiva of cold or warm blooded animals, the eyeball can be pinched, pressed and rotated at will without producing a trace of reaction. It produces also anæsthesia of the pharynx and a sensation of cold in the mouth. In therapeutics it can be utilized for disguising taste of medicines owing to its anæsthetic properties and also in gonorrhœa, gleet, and all other urinary diseases just mentioned under Kava-Kava.

KEFIR.

Preparation.—Kefir koumiss is prepared by adding active Kefir grains to milk, preferably kept at a temperature between 70° and 80° F., until the effect of fermentation becomes apparent by the rising of the grains to the surface, being carried upward by bubbles of carbolic acid gas attached to them. The grains may then be strained off, and the milk, which now contains enough yeast cells to insure the continuance of fermentation left to itself in well corked bottles. If Kefir is once obtained by this means, the further production may be simplified in the same manner as in the case of, koumiss, by adding a quantity of ready Kefir to a multiple of fresh milk and this may be continued through many generations without having further recourse to the original Kefir grains.

Characters, &c.—Grains from which Kéfir is prepared occur in the shape of grains of various forms and sizes, very much resembling bits of the inflorescence of cauliflower constituting a compound fungus growth, resulting from the cohabitation of a flesh fungus with a certain species of saccharomyces, which latter alone plays the active rôle of enacting vinous fermentation of the saccharine constituent of milk.

Difference between the action of Kefir koumiss and Brewer's yeast :—It differs from brewer's yeast in starting vinous fermentation without the addition of a fermentable sugar and the fermentation progresses to a certain advanced degree while the milk is as yet sweet, or before lactic fermentation produces its effect. It is therefore, possible, to obtain an effervescing koumiss by its aid with a much less degree of acidity than that obtained by the saccharomyces cerevesiæ, and it may be concluded that the Kéfir yeast is better adapted for the fermentation of milk than beer yeast is. By after fermentation the same degree of acidity is reached as in koumiss obtained through the ordinary yeast. This peculiarity, has led to a distinction in the use of the different stages of the fermentation of Kéfir, as it has been observed that young Kephir which is yet sweet acts as a slight purgative, while on older, or more acid, or "*stronger*" Kéfir, exerts a constipating effect on the bowels, and is less easily borne by delicate stomachs.

Physiological actions.—(1) Kefir increases the urinary secretion when used in large quantities. (2) The sp. gr. of urine and the total

weights of solids in the urine sinks down under its influence. (3) Nitrogenous tissue changes are checked. (4). Digestive energy and nutrition in general are invariably raised even in the most exhausted individual (5) The bodily weight is increased materially (6) The number of red corpuscles increases.

Therapeutical actions.—Kephir is regarded as one of the most effective of all means to recover the physical powers after a long or exhausting diseases. Under its influence the pains of lungs and stomach affections subside in a few days, the sleep becomes more quiet and more refreshing, the body becomes rounder and fuller and the pallor of the face yields to a fresh and red colour.

KIESELGÜHR.

Syn.—*White Peat.*

Characters.—A diatomaceous earth, which when burnt into a furnace, turns into an extremely light powder composed entirely of inorganic ash which is extremely absorbent and antiseptic.

Therapeutical properties.—As a diluent for iodoform it has no equal ; and as it is much cheaper than the latter it is economical in use. It is admirably adapted for insufflations owing to its lightness and absorbent powers ; and it has been thus prescribed in *naso-pharyngeal affections and gynæcological practice.*

(1) *Chancres.*—For cases of chancroids it is better adapted than iodoform alone, in the proportion of equal weights. In this form indeed, it is adapted for dressing either the soft or the hard sore. For sometime past Dr. Robert Park has been using for the dressing of sores and ulcers, a powder composed of burnt Kieselgühr and iodoform to which a varying proportion of Eucalyptus oil or other odorating substance is added.

(2) *Skin Diseases.*—As a dusting powder in erythema, eczema and erysipelas its advantages over starch or other powders are owing to its great power of absorbing moisture ; but its extreme lightness is against its use alone for this purpose.

(3) *Antiseptic Dressing.*—Mixed thoroughly with absorbent cotton wool it adds greatly to its absorbent power and furnishes it with detergent and antiseptic qualities.

KOLA NUTS.

STERCULIA ACUMINATA.

Syn.—*Cola acuminata* ; *Gouron oni bene*, *Guru nuts*, *nagone*,
Female Kola.

Part used.—*The seeds.* *N. O.*—*Sterculiaceæ*.

Habitat.—*West Coast of Africa.*

Chemical Composition.—The seeds contain no less than 2·81 per cent. of alkaloid, of which 2·71 is Caffeine, ·08 Theobromine, with a variety of Tannic acid.

History and Early Uses.—Kola is the great beverage nut of the Africans, just as coca is with the South Americans, and Tea and Coffee with us and other nations. From time immemorial cola nuts have been of inestimable value to the natives of Africa, and so highly prized that they are used much as cigars with other nations as a sign of welcome, friendship and protection ; moreover where the nuts are not indigenous, no business can be transacted without a few of them being previously eaten. Formerly no marriage gift of the bridegroom to the father would be deemed acceptable for the purchase of his daughter, unless it comprised a considerable amount of Cola Nuts. Europeans residing in Africa quickly become used to it, and find it quite as imperative a necessity of chewing it as the natives themselves. This is easily explained by the relatively large amount of caffeine which they contain, the habitual use of which is necessary in the tropics. It is asserted that those who chew and eat Cola Nuts, all food and drink, and even brackish water, have a pleasant taste.

Physiological actions.—Its physiological action upon the human economy is to increase the total urinary water, with a slight reduction of the extractives eliminated by the urine. Such action is probably due to its contained caffeine, which favours increased oxidation of the tissues. It in no way affects the nitrogen output of the body. Kola Nut, when pure and not too old, has a peculiar stimulant action on the nervous system, temporarily strengthens the heart beat, and increases the arterial tension, and warding off the sense of mental and physical depression or exhaustion.

Therapeutical actions.—Kola nut acts both as a *food product and as a therapeutic agent*. It is highly prized by the natives of Africa for its *stimulating and sustaining properties*, which are analogous to those of the *South American Coca*. The use of these nuts is said to support the strength, allay inordinate appetite, assuage thirst and promote digestion. They are further stated to render those using them capable of prolonged fatigue, in the same manner as Coca leaves. They are also employed by the Africans as a preventative against dysenteries which are so prevalent in that climate. Therapeutically the Kola resembles in its action to *Guarana and Coca* and is said to have almost a specific effect in combating the intoxicating influence of alcohol. It is employed in the treatment of nervous system, wasting diseases, neurasthenia, dipsomania, and cephalalgias, where *caffeine* is indicated, and as an adjunct to the administration of mercury and iodides. All these properties of Kola are described clinically as follows:—

(1) *Neurasthenia*.—Dr. Gihon administered it to a case which is described as presenting the group of symptoms designated collectively as *neurasthenia*. The patient was a lady whose nervous equilibrium had been very seriously deranged, and who suffered with *excruciating headaches, attended with nausea, loss of appetite, great despondency, insomnia, palpitation of the heart, intercostal neuralgia, and perturbed secretions*. Under the use of the remedy these symptoms, which had resisted the previous exhibition of quinine, arsenic, iron, bitter tonic, guarana, and diffusible stimulants, quickly disappeared. The headache, which had been recurrent after temporary relief, did not return; the appetite was recovered, muscular vigour regained, and the mental dejection markedly relieved. The patient enjoyed refreshing sleep, and the secretions became normal. The remedy produced neither gastric disturbance nor constipation, which had followed the previous use of chocolate. “The method of administration of the remedy was similar to that of chocolate. The paste was triturated with sugar and dissolved in boiling water, making, with the addition of a sufficient quantity of the ordinary vanilla flavoring extract to cover the somewhat disagreeable odour and taste, a rather pleasant beverage. It was taken hot, in doses of ten to fifteen grammes of the paste twice a day, between breakfast and luncheon, and again between the latter meal and dinner.

(2.) *Dipsomania*.—Kola nut has a rapid and powerful action upon those accustomed to the use of spirituous liquors, clearing the head and restoring the power of the brain to its normal condition. In a fresh state, the power of the Kola-Nut to sober those who have indulged too freely in spirits is well-known; but it is the property of *curing drunkards of their craving for drink* that I wish more particularly to call attention to. A cup of infusion of Kola mixed with that of coca, known as Kola-Chocolate, taken at breakfast or at supper-time regularly, or a cupful in between meals, *will produce a beneficial and stimulating effect on the system, replacing the craving for drink, and finally curing the patient of his habit*. The great advantage in the use of Kola-Chocolate, is the fact of its being pleasant to the taste and in the patient taking it without suspecting why it is administered. (Th. Christy).

(3.) *Headaches*.—There are few cases for which a cure is desired than the frequently recurring headaches, whether of the bilious, uræmic, nervous or neuralgic type. Frequently such headaches are accompanied with nausea, loss of appetite, great drowsiness, insomnia, palpitations, giddiness, impaired vision (spots), and a general feeling of malaise. The patient is compelled to keep in a recumbent position, sometimes for several days, until the attack passes off. In such cases Kola combined with Cocoa Fat, known as Kola-Chocolate, has been administered with great benefit, not only in giving the patients relief from their momentary symptoms, but preventing a return of the headaches, providing the Kola-Chocolate be taken for some little time regularly.

(4.) *Nervous Debility, &c.*—Kola-Chocolate, which contains a mixture of the pure Kola Nut, Cocoa Fat, &c., is undoubtedly a beverage of great importance to all delicate constitutions, from the fact of its containing in itself stimulating properties not found in any other vegetable product. By its astringency and pleasant bitterness the nut has a very beneficial action on weakened digestive organs and thus renders it easy to take by even the weakest stomach. Its action on the nervous system is stimulating and strengthening, and it can be prescribed, for a long period without the slightest ill-results following, *to delicate children, invalids, students, examiners and brain workers*.

(5.) *Diarrhœa*.—As an infusion with milk and sugar Kola powder is an efficient substitute for tea or coffee, being especially for those affected with diarrhœa superior to either owing to its astringent action.

(6.) *Syphilis*.—Mr. E. Hurry-Fenwick, F.R.C.S., Assistant-Surgeon to the London Hospital, writes as follows:—We have tried Kola largely in Syphilis, both in the secondary and tertiary stages, under the belief that its great sustaining properties would counteract the depressant effect of long courses of mercury and potassium iodide. We have given it in the form of *stick chocolate* or in the ordinary fluid form of a cup of chocolate, either of which, for purposes of concealment, is a perfect form of administration. The result was, in the greater number of cases, gratifying. In a few cases no effect was noticed, but this was the exception, and usually occurred in robust young men with primary Syphilis, who had not been long under the influence of mercury. It is somewhat constipating, and replaces the opiate admixture in such preparation. Although we have obtained by it tolerance of mercury, where mercury was not easily borne, yet it is in the tertiary stage, where potassium iodide is exhibited, that Kola-chocolate is a valuable and a pleasant remedy. In those cases of men broken down with disease and want, or disease and worry, we have in Kola a powerful adjunct to potassium iodide. The effects are such that we never hesitate now to begin the treatment with eight or ten grains of iodide, instead of three or five grains, provided that the medicine be taken with fluid or stick Kola. The fluid form is the better. A man will add the iodide to his morning and evening cup of chocolate, and eat a cake in the middle of the day, after taking a dose of iodide crystals dissolved in a little water. Cases who have returned after taking the iodide, complaining of headache, nausea, pains in stomach etc., will continue taking the drug without inconvenience if mixed with Kola. That it has no power over Syphilis *per se*, is, unhappily, obvious; its chief merits rest in its power of sheathing (?) the mucous membranes, and in its great sustaining and invigorating properties. It is pleasant to the palate, especially that flavoured with vanilla. The cases of syphilis were often of the worst type, being drawn from the neighbourhood of the London Docks.

(7) *As a Food Product or Dietetic Agent.*—As a food product, its sustaining and stimulating properties have earned for it a large consumption by those who have been fortunate enough to have tried it, and the following letter from Mr. A. E. Floyer, the Superintendent of the Government Telegraphs of Egypt, will show how suitable this chocolate is for expeditions and all travellers whose object is to condense as much as possible their stores without reducing their nutritiousness. “I went into the hills with my shikarri on the morning of the 9th. We did ten hours very severe climbing, much of it anxious work in the dark ; we slept on the rocks, and the next day did ten hours more very severe climbing, and at last got out of the mountains. It is no exaggeration to say that we arrived at the camp in capital spirits, though very leg-weary. During these two days we had divided between us four biscuits, three oranges, and three tablets of Kola-Chocolate ; *practically, nothing but Kola.*” “It seems to have no ill effects, nor interfere with ordinary stomach arrangements or with sleep, if you don’t eat it after 3 p.m. Half-a-cake at 10 a.m. and the same at 3 p.m., and you can wait till midnight before you lunch, and have a good appetite when you get it.”

Surgeon R. H. Firth, from observations made in India says :—“That Kola Nuts taken continuously during times of exertion and fasting possess some power of warding off the sense of mental and physical depression or exhaustion peculiar to that condition this power is not, however, so marked as some observers have reported. That it might be employed on service as an issue to troops in the form of broken up nuts, the same being issued with instructions that a piece be constantly kept in the mouth and chewed, and the saliva swallowed. The facts being made clear to the men that, though not in themselves a food, yet, from certain qualities inherent in them, the nuts guard against exhaustion, and moreover have a salutary action upon the lining membrane of the mouth, stomach, and intestines rendering them less susceptible to the action of indifferent food and water. That while the nut powdered and made into an infusion with boiling water is an agreeable, way of taking Kola, yet the nut should be always freshly ground ; and this method is inferior to continual mastication of the solid nut for dietetic emergencies. Those chewing the nuts must do so

continuously, keeping it in the mouth all day swallowing the saliva, if any satisfactory effects are to be attained."

Preparations and Doses.—Powdered Nuts, 15 to 20 grs.

Fl. Ext. of the Seeds, 10 to 30 mins.

Kolatina (Paste of Kola Nut), 1 to 2 drs.

N. B.—The preparations of Kola should be taken at or between meals, as between breakfast and luncheon and between luncheon and dinner.

KORONICO.

VERONICA SALICIFOLIA, V. PARVIFLORA.

Part used.—The Herb. N. O.—*Scrophulariaceæ*.

Habitat.—China, Japan, New Zealand, &c.; cultivated in gardens in Europe.

Therapeutical properties.—The plant is largely used in New Zealand as a remedy for diarrhoea and dysentery; even in China and Japan it has a reputation in the treatment of chronic diarrhoea, and is said to be especially valuable when the stools contain blood. It is also used in the intestinal disturbance produced by drinking stagnant and swampy waters in dry seasons. The buds and leaves are the active parts.

Preparations and Doses.—Fl. Ext., 10 to 60 mins.

Tr. (1 to 8 Pf. Sp.), $\frac{1}{2}$ to fl. drs.

KOUMISS.

Syn.—*Cerevesia Lactis*.

Characters and Preparation.—Koumiss is a fermented preparation of cow's milk, obtained by alcoholic fermentation of sugar, not of milk, but in milk. The various phases of the process which take place in the formation of Koumiss and the changes which the constituents of milk must undergo may be thus briefly stated:—Some sugar is added to milk, then brewers' or cake yeast (grocers' yeast) and the mixture is left to itself. In the course of time, varying in length according to temperature, the effects of alcoholic and of lactic fermentation make themselves apparent, the first by evolution of gas, through the splitting

up of some of the sugar into alcohol and carbonic acid, of which the latter is the most conspicuous ; the lactic fermentation, by the appearance of lactic acid, generated through a rearrangement of the atoms in the sugar molecule, and in the influence of lactic ferment, which transformation manifests itself by throwing the casein out of solution. If the generation of carbonic acid gas has been lively enough before the lactic fermentation produces its effects or if it is aided by occasional shaking of the bottles, all the butter-fat is enveloped in the precipitate of the casein without affecting its divisibility. Hence the function of carbonic acid gas is this, that by the expansion and mobility due to its gaseous nature it reduces the casein to the finest possible condition, much finer than other mechanical means can do. When the precipitation and division of the casein are effected, and enough carbonic acid gas is found to cause lively effervescence the koumiss is ready for use. As it is desirable to have the alcoholic fermentation started before the lactic fermentation acts on the casein, the addition of fermentable sugar in the shape of grape-sugar or honey, is indicated. Boiling does not burst the milk cells or separate the fat ; but if milk is left for hours at a temperature above the melting point of butter fat, 65° F., or if subjected to violent commotion, such as churning at the same temperature for a short time, practically all the fat is separated. In place of preparing koumiss with sweet milk, and waiting until it turns sour, the casein may be precipitated at once, by the addition of one-third of ready koumiss to fresh milk. Yeast is not necessary, but sugar must be added to produce enough carbonic acid gas to cause effervescence.

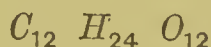
The time in which koumiss becomes ready for use depends as much on the quantity and activity of the ferment as on the temperature. With plenty of yeast and a prevailing temperature nearer to 90° than 60° F., the course of fermentation may be said to be even stormy, and the process is completed in as many hours as days may be consumed when the temperature is kept lower. But it is safer to operate at a lower temperature, by which a much finer product is obtained. Besides, by a slow after-fermentation the koumiss becomes ripened, and in the course of one or two weeks a cheesy or butyraceous flavor is acquired, which is generally regarded as a necessary characteristic of good koumiss.

Therapeutical properties.—It is a dietetic, nourishing and restorative agent of great value and is also a diuretic. It is specially serviceable in cases of consumption and wasting diseases, and extreme irritability of the stomach. In cases of obstinate vomiting due to debility of the stomach from exhausting diseases and other causes, it is very beneficial and has been always retained by the stomach when all other foods and medicines are not. In febrile diseases, it will usually be retained when everything else is rejected. Does not cloy the appetite nor produce biliousness, as an ordinary milk diet will, but each draught quenches the thirst efficiently, and at the same time supplies abundant nourishment. Dr. Blaney always prescribes it under the name of "*Cerevesia Lactis*" in cases of obstinate vomiting. When first taken it is apt to have an aperient action, but this soon passes off.

Dose.—1 to 2 fl. ozs.

N. B.—When employed for cases of vomiting, koumiss should be kept cool by placing the bottles containing it constantly on ice.

LACTOSE.



Syn.—*Lactin*.

Characters.—Lactose, the crystalline principle contained in *Saccharum Lactis* (*Sugar of Milk*), occurs in 4-sided prisms, terminated by 4-sided pyramids; it is soluble in about 6 times its weight of water, the solution being much less sweet than that of cane sugar; it is not soluble in alcohol or ether. *It is not subject to alcoholic fermentation*, but milk is so from the prior slow conversion of the *Lactose into glucose*.

Physiological actions.—Lactose acts directly on the Kidneys, since the pulse and blood pressure remain normal after its use. It therefore differs from *Digitalis*, *convallaria* and *strophanthus*, which are diuretics to the extent to which they increase the blood pressure.

Therapeutical action.—Lactose is the most powerful, as well as the most sure, of the diuretics known. It can be placed in the group of pure renal diuretics, to which group also belong, *caffeine* and *Theobromine*; the remedies which increase the flow of urine without influencing

the degree of vascular pressure. It has been determined by experiments that *Lactose, Saccharose and Glucose all possess considerable diuretic properties*; The diuretic effects of milk is no doubt attributable to sugar of milk which contains lactose, and milk is recognized by most physicians as one of the best of all diuretics, succeeding when apparently more potent remedies have failed. As is well known, milk is a typical food and fills an important rôle in the therapeutics of the *diseases of the stomach and heart*, while in practice is largely used in diseases where diuretics are indicated, such as *dropsy of cardiac or renal origin*. This diuretic action is due to Lactose generally prescribed as sugar of milk (*Saccharum Lactis*). That Lactose is marked diuretic has been confirmed by clinical observations.

Prof. Germain Séé holds that when 2 quarts of milk are given to a patient, all the advantages of diuresis are obtained, without its inconveniences; while on the other hand, glycosuria apt to be produced by a strict milk diet is avoided by the use of the lactose. By administering 2 ounces of milk sugar, diluted in two quarts of water, all other liquids of any kind being suppressed, *marked diuresis is obtained in all cases of heart disease whatever their nature, with the single exception that its action is less constant in arterio-sclerosis*. 3 ounces of milk sugar given in 24 hours, will produce an enormous diuresis, more than any equivalent to that which might be obtained with four or five quarts of milk. As much as 2 or 3 quarts of urine may be passed daily under the use of this treatment, and any dropsy present will be almost surely reduced. The degree of diuresis produced by it increases up to the third day; it then remains stationary and then becomes somewhat less for several days; but a short time later, even under the administration of some amount of drug the diuresis will regain its original degree. It never fails in dropsy of *cardiac origin*, unless the kidneys are the seat of Bright's disease and in which there is considerable daily elimination of albumen. It is not so efficacious in dropsy of renal diseases but when the quantity of albumen is small, the result in this affection also is favourable. Sometimes lactose will produce diarrhoea, when naturally diuresis will be lessened; in other cases, patients will have profuse sweating, when likewise the polyuria will be diminished. As a rule the remedy is perfectly supported and may be

given for 8 or 10 days without interruption and then suspended for a day or two to have its employment renewed. Numerous cases of dropsy from heart disease have been favourably influenced by lactose even when given during the stage of imperfect systole. If asystole is complicated by dyspnœa, lactose is then powerless, though its action may be seconded by the iodide of potassium.

LAMIUM ALBUM.

Syn.—*Urtica Mortua* or *Dead Nettle*, *White Nettle*, *Blind Nettle*, *White Archangel*.

Part used.—*The Flowers (Flores Urticæ Mortuæ.)*

N.O. Labiataë. *Habitat.*—*Europe.*

Therapeutics.—It has mucilaginous and astringent properties. *Its blossoms have an hæmostatic powers of the first order.* The infusion is largely used by peasants of Central Europe for *catarrh and leucorrhœa*. It is effective, in *bronchial hemorrhage, blood-coughing and uterine hemorrhage, where ergotine, acid tannic, and the like are unsuccessful*, as follows:—R Tr. Flores Lamii Albi ozs. 4, Syrupi ozs. 2, Aquæ ozs. 9. M. Sig. A half teaspoonful given every half hour until internal bleeding ceases, after which a tablespoonful every 4 hrs until the symptoms cease.

Preparations and Doses.—Fl Ext., 1 to 2 fl. drs.

Tr. (1 to 8 Pf. Sp.), $\frac{1}{2}$ to 2 fl. drs.

LANOLINE (*Liebreich.*)

Syn.—*Adeps Lanæ*; *Agnine*; *Wool-Fat*.

Preparation.—Lanoline is extracted from the fat contained in the wool of the sheep. The winning of the wool fat, is obtained by cleansing the greasy sheep's wool in a solution of soap until entirely free, acids are now added to the soiled water, which causes oily particles to rise, these contain besides the cholesterine fat as much as 30 p. c. of free fatty acids. The product thus gained is a dark coloured repulsive mass, with a disagreeable odor; from this the wool fat is now separated by the addition of alkalies, which form an emulsion with the fat; this is now subjected to centri-

fugal action. By this operation a thin milk and cream are obtained just as when milk is subjected to centrifugal action—and the cream contains Lanoline in pure condition.

Characters, &c.—Lanoline (Liebreich) is a neutral fatty salt of cholesterin, i. e., cholesterin takes the place of glycerine which is the radical of ordinary fats. It is not a secretion arising from sebaceous or other glands, but is a product of retrograde metamorphosis of Keratin or Keratin-yielding tissues. It is a fat natural to the hair. It has the consistency of the ordinary citrine-ointment, which it has very much the appearance of, is soft, smooth, and slightly tenacious; of a yellowish colour and a very slight woolly smell, or an odour similar to that of new cloth, which is barely noticeable and is not the least unpleasant. It is neutral in rection and not liable to rancidity and not easily saponified by alkalis. It mixes with water and takes up over 110 per cent. of its own weight of water without losing its salve-like consistency. It combines with vaseline, paraffine, ointment, glycerine, oils, fats and balsams, and is miscible with all medicaments indifferently. In being miscible with glycerine, it again differs from other fats, and also by not being easily transformed into soap, and this can only be effected by the long continued influence of melting alkaline hydrates or alcoholic alkalies.

Tests for its purity in therapeutics.—(1) A small quantity, on being heated with water over a water-bath, must show the absence of glycerine. (2) If a solution of caustic soda be added, ammonia must not be developed. (3) The fat, if a small portion be heated with water on a water-bath, must separate in oily drops without producing an emulsion. If the quantity employed be large, it must separate as a clear oil. (4) With blue litmus-paper, the reaction must not be acid. (5) For examination, if it be mixed or well rubbed with water upon a ground-glass plate with an iron spatula, the result must be a product containing over 100 per cent of water; and, if the lanolin employed be pure, the kneaded mass will be sticky and paste-like, to which the spatula readily adheres, but, if impure, the mass will have a soap-like smoothness, from which the spatula readily glides. (6) on exposure the upper surface of

lanolin, and all lanolin salves, and ointments becomes darkened, due to the evaporation of water, and not to its decomposition. (7) It never becomes rancid and its smell should remind one of wool (Oscar Liebreich, M.D.).

History and Early Uses.—It has been known for a very long time among the agricultural and cattle breeding populations, and its old designation was *œsypus*. *Æsypus* was already used in the time of Herodotus. Dioscorides describes the preparation of *œsypus* from wool, and his description is reproduced in most of the pharmacopœas up to the eighteenth century. It was also used by the ancients as cosmetics and Ovid mentions it in his “*Ars Amatoria*.” The Roman ladies anointed their faces and skin, with *œsypus* brought from Athens, and this in spite of its repulsive nature. Lanolin continued to be employed during the middle ages as Mr. Milton has pointed out to me; he has found the *œsypus* mentioned in the sloane edition of *Hieronymus Frascatorius*.* *Æsypus* was bound to be abandoned, as the impurities which it contained, especially the rancid fatty acids, often produced irritation of the skin. Many substances, called by fantastic names, had been recommended as substitutes for *œsypus*, but they all contained fatty acids. The first chemical analysis of the substance called “wool fat” was made by Fr. Hartmann in 1868, subsequently by E. Schulze in 1870. The former found it to consist chiefly of æthers of fatty acids with cholesterine, while the latter discovered besides these, the presence of iso cholesterine æthers, since then Prof. Oschar Liebreich who has made a most careful investigation of the presence of cholesterine fat in the animal organism demonstrated its existence in all keratinous tissues, which he analysed, such for instance as human epidermis, hair, vernix caseosa, whale bone, horn shavings, feathers of geese, chickens, turkeys, pigeons, bristles of the hedgehog and porcupine, the hoofs of horses, hair of the sloth, &c. He also showed that the fat of keratinous tissues differs widely from.

* *Hieronymi Frascatorii Syphilis sive Morbus Gallicus*. Londini: 1884. Publications of the Sloane Society. “Interca, si membra dēlor convulsa maligna torqueat œsypo propera lenire dolorem Mastichinoque oleo.” Meanwhile, should severe pain assail the limbs, hasten to assuage the torment with oil.

ordinary fats, in that the radical is cholesterine. These researches resulted in the discovery of a definite substance which he named *Lanoline Liebreich*.

Properties and Uses.—The advantages of *Lanoline* in preference to the many bases for ointments may be characterized as follows: (a) It has the great advantage of in no wise irritating the skin. From the numerous trials in Dr. Lassar's polyclinic it was apparent that even the most irritable skin would bear lanoline when other fats caused either œdematous swelling or irritation. (b) That the skin after being rubbed dry with a cloth, still remains soft and pliable, and silk or paper passed over it gives no grease stain. (c) It is more readily absorbed by the skin and to a greater extent than any other fat; that in the same space of time twice the amount of lanoline as compared with vaseline can be absorbed by means of massage. (d) That medicaments incorporated into it can be infinitesimally subdivided, a condition requisite for quick absorption. Dr. Lassar has found the mercury in blue ointment made with lanoline in the underlying layers of the skin and has followed cinnabar with absolute uncertainty, demonstrating its absorption microscopically. (e) Lanoline is miscible with water, and absorbs as much as 110 per cent. of its own weight in water without losing its pliancy, and salve-like form, on the other hand, Ung. Paraf. only takes up 25 p. c. Lanoline of commerce contains 25 p. c. of water. (f) The experiments so far conducted show that lanolin requires much less for an application for an effect, and therefore it is particularly economical as a basis for ointments. (g) When lanoline is used on mucous surfaces it never forms a scab; this has been first noticed by B. Fraenkel, of Berlin. It may be explained thus: Lanolin has a great affinity for water, and this peculiarity explains why it adheres intimately to mucous membranes; fat and vaseline, on the contrary, remain separated from the mucous surface by the natural watery secretion. (h) Again, the slight tenaciousness of the ointment fulfils a most valuable purpose in keeping it in contact with the skin. This property prevents it from greasing up the surrounding parts, or from running off, which it rarely may, even when the integument is most highly inflamed. (i) It has been found that the pliancy of all lanoline ointments will be greatly

increased by the addition, of about 20 p. c. of adeps suillus or one-eighth or one-fourth of another fat or oil ; or if a firmer consistency is desired, the same amount (20 p. c.) of sebum ovillum may be added, without endangering its other qualities in the least. Then again as regards the addition of fat, tallow or oil, it is found that when rubbed into skin with lanoline, they are as readily absorbed as that substance itself, whereas, alone it is not the case. A few minims of oil of lavender or oil of eucalyptus, will communicate an agreeable odour to the ointment. (j) In preparing ointments with lanoline in combination with vegetable extracts, no fat should be added. With certain other substances, such as the carbonate of lead or lead plaster, one part of lard or two of oil may be added with advantage, and the same remark applies to the salts of mercury and zinc or chrysarobin, &c. (k) In general lanoline is a substance which supersedes all other constituents for ointments, in consistence, its melting point not being below body heat and is both absorptive and absorbable.

(2.) *Medicaments absorbed through the skin* :—It rapidly, and in a remarkable degree possesses the power of penetrating the epidermis. Hence lanoline greatly facilitates the absorption through the skin of drugs mixed with it. So marked is this, that with poisonous drugs, such as the toxic alkaloids, less (about half than the usual proportion), should be prescribed in ointments. The vaselin and paraffins hinder, rather than favour, the passage of drugs into the skin. With regard to this absorptive power, I concur with Prof Liebreich, in saying, that, “ it must not be supposed that a substance applied to the skin, even in combination with lanolin, can be absorbed as quickly as through the intestines. It is also necessary to remember that a comparatively large quantity must be applied externally in order to produce the same general effects as a small quantity given by the mouth ; the dose of mercury for example, must be sixty times larger when used in the form of the ordinary grey ointment than when administered internally. Although lanolin mercury ointment is more readily absorbed than the ordinary one, it is quite certain that the quantity of mercury used must be much larger than what one would give internally.

Dr. L. K. Pavlovsky, of Kharkov, writes that his experiments with Liebreich's lanolin (first in Russia) enable him to arrive at the following conclusions. 1. Narcotic extracts, when combined with lanolin, are absorbed by the skin "quite satisfactorily," their pain-relieving action being obtained with an almost perfect certainty." The dose used was only twice as large as that for internal use. 2. *Hydrochlorate of quinine* is absorbed also very easily. This statement is based on four cases of *intermittent fever in children*, where lanolin and quinine inunctions rapidly gave the effects desired. 3. When a lanolin ointment, with iodide of potassium is rubbed in, *iodine appears in the urine* not sooner than two, four, or six hours after inunction, while Lassar obtained iodine from the urine about three minutes after friction. Patschkowsky and Kasper found traces of *iodine* in the urine thirty minutes after rubbing it into the skin with Lanoline, whereas with the ordinary iodide of potash ointment results were nil. 4. *In children, lanolin is better absorbed than in adults*. 5. Washing the skin with other considerable facilitates the absorption lanolin ointments. 6. In general, lanolin is a substance which promises to supersede all other constituents for ointments, and even, in certain cases, to render superfluous the internal use of drugs.

(3.) *Skin Diseases*.—(a) Therapeutic experiments with Lanoline, by J. V. Shoemaker, A. M., M. D., in his clinic at the Hospital for Skin Diseases, have demonstrated the rapidity with which it is absorbed and well borne by the skin. Cases having eruptions on various parts of the body had lanolin ointment used on one portion, lard ointment on another, and petroleum ointment on still another. The effects of the application of these bases were strikingly different upon the same subject and in the majority of cases. The lanolin was found to be rubbed in with ease, the absorption being rapid and the medicament held in suspension, and in contrast with the drug in the other ointments, to be more decided in its impression upon the parts. For example, the employment on the skin of a 5 per cent. carbolic lanolin ointment, and the same quantity in lard and in cosmoline, produced rapidly in the former a numb sensation, less marked in the lard ointment and even less so or almost an absence of effect in that of the cosmoline ointment.

(b) Dr. Lassar in his polyclinic for diseases of the skin, has employed it in over 400 cases with the most beneficial results, concluding that its introduction into the pharmacopœa, will be a decided advance towards improvement of ointments and plasters. His experience shows it to be absorbed quickly, and to an extraordinary degree, the skin becoming tense and turgid. *All inflammatory diseases of the skin can be more successfully treated with lanoline.* Dr. Lassar especially, recommends it in such cases, where the treatment of the deeper layers of the skin are concerned, as in *psoriasis, herpes tonsurans, to parts where the skin has become thickened and horny, chronic dermatitis, also for applying chrysarobin, pyrogalllic acid, salicylic acid, naphthol, and in all preparations of mercury resins, iodide of potash, sapo viridis, &c.*

(c) Dr. Behrend, who has been using it quite extensively in his polyclinic for diseases of the skin not only advocates its use in all cases of *thickened epidermis, as callosities*, but also recommends it as the best vehicle for ointments, where the ingredients are to be rapidly absorbed and retained, *as in scabies* for instance, which he says yields more readily with a Wilson salve prepared with lanoline than with *adeps suillus*. He also finds it of the greatest value in *psoriasis capitis and seborrhœa sicca*.

(d) Lanoline has been used as a basis for ointments in *scrofuloderma, pruritus, erythema, sycosis, tinea versicolor, epithelioma, lupus and common ulcers, eczema on all parts of the body and dermatitis, etc.* It is now employed by dermatologists everywhere.

(e) *Eczema*: Lanoline has been found very efficacious in cases of eczema as will be found from the following case reported by W. G. Smith, M. D.:—Captain—, a patient of Dr. Gilbert Lynch, consulted me while on a visit in Dublin. He was a corpulent man, with varicose veins in both legs, and was much troubled by an angry outbreak of eczema rubrum on the legs, on and off for two years. For this he had had the best advice in London, but without very satisfactory results. When I saw him the leg was weeping fiery red, and intolerably itchy. The following ointment was prescribed. *Lanolini dr. xij; adepis benz. dr. j; liq. plumbi subacet. fort. m xv; acidi carbol. dr. ss; olei lavand. m v.* Speedy

improvement ensued; the itching was calmed; he was able to walk about in comfort, and in about three weeks was practically cured. Ethereal solution of nitrate of silver (20 grains to 1 oz.) was twice applied. It is true that some cases of eczema were none the better, perhaps even aggravated, after the use of a lanolin-ointment; but similar experience is not uncommon with diverse modes of treatment in obstinate cases of this fickle disease, and lanolin is no cutaneous panacea.

(f) *Psoriasis*.—Miss G, aged 25, was sent up to me from Doneraile, County Cork. For fifteen years she had been subject to psoriasis, here and there; and in January, 1886, the diseases suddenly developed into an extensive eruption over the face, chest, back and limbs; in fact, no part of the body was spared. She was covered from head to foot with small circular scaly patches. I first prescribed a lotion of soft soap, spirit and carbolic acid, which smarted her. A few days afterwards, this lotion was applied to one limb, and ointment to the opposite limb (lanolin and lard, including pyrogallic acid 40 grains, and salicylic acid 20 grains, respectively, to the ounce). This ointment caused no irritation, and exercised a more favourable influence on the eruption. Progress however being rather slow, I substituted for the above ointment a lanolin and chrysarobin ointment (20 grains to 1 ounce). This produced speedy and marked improvement. In a week there was a striking change for the better, and in a fortnight all infiltration and scaliness had vanished, and no trace of the eruption remained, except some brown pigmentary stains. White precipitate ointment was used on the face, and with good effect. Arsenic was given internally. W. G. Smith, M. D.).

(4.) *Diseases of children*.—In addition lanoline has proved an excellent remedy for *coryza* in children, preventing the formation of crusts, in *ischias*, combined with ichthyol, in milk crust (scald-head) of children, in *ichthyosis*, &c.

(5.) In combination with cocaine it is useful for hæmorrhoids, chillblains or frost-bites.

(6.) *Chapped Hands*.—With chapped hands, its effects are extremely satisfactory and, several bad cases which had occurred

during the severe weather, in 1886, in England, were cured by a single inunction of lanolin.

(7.) *Massage*.—When the rubbing in of lanoline into the skin is repeated several times, the skin becomes distinctly softer. This application of lanolin to the skin has been found very useful for massage by Dr. Ewer.* It is a great advantage that lanoline does not require to be removed with soap and water after massage.

(8.) *Rheumatic Exudation*.—Miss E. was attacked, four years ago, with stiffness and pain in the back of the neck. This gradually became worse, and, for some months she suffered acute pain in the neck, especially upon movement. The head drooped down on the chest, she could not sit at table with comfort, and her life was becoming miserable. On each side of the cervical spine, especially the left, there was an indurated ridge of thickening, apparently in and between the muscles, and very tender to touch. She was given iodide of potassium and chloride of calcium internally, and was directed to rub in gently, but thoroughly, an ointment of lanolin and lard, containing fifteen grains of iodide of potassium, twenty grains of iodoform, and three grains of hydrochlorate of morphine to the ounce. Improvement was soon apparent, and steadily continued; and in about three weeks, she could elevate and rotate the head freely, and with little pain, and the hard infiltration at the nape had greatly diminished. The degree of pliancy conferred on the skin was remarkable, and the effect of the ointment in alleviating the local discomfort was unquestionable. Hitherto, I had found little reason for faith in the efficacy of iodide of potassium applied externally.

(9.) Prof. B. Fränkel recommends the application of lanoline ointments to mucous membranes, claiming that it prevents the formation of crusts, and lessens the secretion of pus. He places considerable stress on it as a basis for boracic acid and iodoform. Prof. Kobener values it as a good basis for preparations with mercury, sulphur, and tar.

(10.) *Anæsthesia (Local)*.—Dr. Shoemaker reports that “the employment on the skin of a five per cent. carbolic Lanoline oint-

* Die Anwendung des Lanolin bei der Massage, *Deutsche Med. Wochenschrift*. 8 July, 1886 Berlin.

ment, and the same quantity in lard and cosmoline, produced rapidly in the former case a numb sensation, less marked in the lard ointment, and even less so, or almost an absence of effect, in that of the cosmoline ointment."

(11.) *Ung. Hydrargyri*.—* I must call attention to the mercurial ointment lately prepared by Prof. O. Liebreich. This ointment is made from 100 parts of Mercury, 25 parts of Lanoline, and 5 parts of mercury ointment. These ingredients are carefully triturated, and after extinction of the mercury, which is very quickly effected, mixed with 50 parts of mutton tallow and 175 parts Lanoline previously molten together. This preparation, "*Lanolinum Mercuriale*," is an elegant soft ointment, and has no disagreeable smell.

(12.) *Soaps*.—It is hoped, too, that the injurious effects of ordinary soaps upon certain skins may be averted by the employment of soaps with lanoline for base. The ordinary soaps remove the fat and dry the skin, so that it becomes hard, inelastic and rough, and loses its natural colour. Pimples, blotches and acneiform eruptions are not unfrequently a consequence of this condition of things. (Dr. Alfred S. Gubb.).

(13.) Since in the preparation of the different compounds with Lanoline, the necessary consistency has not always been obtained, the following important recipes are given in order that the Profession may more readily prescribe this medicament. These recipes are mainly from the Berlin hospitals and dispensaries, and evidence the general utility of this new discovery, made by the eminent discoverer of chloral.—Prof. Liebreich:—

RECIPES.

(Parts by Weight.)

1. Unguent. Belladonnæ.					2. Unguent. Conii.				
Extr. Belladonnæ	...	...	...	1	Extr. Conii	...	...	...	1
Lanolini	...	...	...	9	Lanolini	...	...	...	9

All salves with extracts must be made without the addition of fat.

* Dr. Bernhard Brandis, Physician of Aachen (Aix-les-Bains), one of the most renowned specialists for diseases of the skin, in his treatise, "Principles for the treatment of Syphilis," on page 13.

3. Unguent. Plumb. carb.

Plumb. carb	...	...	...	3
Adipis...	...	...	...	1
Lanolini	...	...	...	6

**5. Emplastrum Plumbi
Lanoline.**

Emplastri plumbi				
Lanolini	...	...	...	aa 9
Adipis...	...	...	...	2

To be heated until the water evaporates. To be used in Eczema.

**7. Unguent. Hydrarg.
cinereum.**

Hydrargyri...	...	...	...	20
Lanolini	...	...	...	5
Ungt. Hydrarg	...	...	...	1
Sevi	...	...	...	10
Lanolini	...	...	...	35

9. Ungent. Potass. Iodidi.

Potass. iodid.	...	...	...	2
Aquæ	...	...	...	1
Adipis...	...	...	...	2
Lanolini	...	...	...	15

11. Ungent. Zinci.

Zinci oxid	...	...	...	1
Adipis ..	...	...	...	1
Lanolini	...	...	...	8

If this salve is intended to be kept for a long time, use benzoated lard.

4. Unguent. Diachylon.

Emplast. Plumbi	...	...	...	5
Ol. olivæ	...	...	...	2
Lanolini	...	...	...	3

Appears hard but melts on the skin.

**6. Unguent. Hydrarg.
ammon.**

Hydrarg. ammon	...	...	...	1
Adipis...	...	...	...	1
Lanolini	...	...	...	8

**8. Ungent. Hydrarg.
Oxid. rub.**

Hydrarg. oxid. rub.	...	...	...	1
Adipis...	...	...	...	3
Lanolini	...	...	...	6

10. Unguent. Plumbi.

Liq. Plumbi subacet	...	...	...	4
Adipis...	...	...	...	5
Lanolini	...	...	...	40

12. Unguent. Chrysarobini.

Chrysarobini	...	...	...	2—5
Adipis...	...	...	...	2
Lanolini	...	...	...	16

13. Ungent Iodoformi.

Iodoformi	...	...	...	...	1
Adipis...	...	...	...	...	1
Lanolini	...	...	...	...	8

14. Unguent. Cinnabar.

Hydrarg. bisulph	...	...	...	...	1
Adipis...	...	...	...	...	1
Lanolini	...	...	...	...	8

15. Ungent. Argent. nitrat.

Argent. nitrat	...	...	...	...	1
Lanolini	...	...	...	...	9

16. Unguent. acid pyrogallie.

Acid. pyrogallie...	...	...	...	...	1
Adipis...	...	...	...	...	1
Lanolini	...	...	...	...	8

Somewhat hard, but useful
for spreading on lint.

**17. Unguent. arsenical.
Cosmi.**

Pulv. arsenical. Cosmi	...	...	...	...	1
Adipis...	...	...	...	...	1
Lanolini	...	...	...	...	7

18. Unguent. Picis liquid.

Picis liquid...	...	...	...	...	1
Lanolini	...	...	...	...	4

**19. Unguent. Balsam.
Peruviani.**

Balsam. Peruvian	...	...	...	...	1
Ol. Terebinth	...	...	...	...	2
Lanolini	...	...	...	...	7

20. Unguent. boricum.

Acid. borici	...	...	...	...	1
Adipis...	...	...	...	...	2
Lanolini	...	...	...	...	7

21. Unguent. carbolic.

Acid. carbolic	...	...	...	...	1
Adipis...	...	...	...	...	1
Lanolini	...	...	...	...	18

22. Unguent. acid. salicylic.

Acid. salicylic	...	...	...	...	1
Adipis...	...	...	...	...	2
Lanolini	...	...	...	...	7

23. Unguent. Ichthyoli.

Ichthyol	...	...	...	...	1
Lanolini	...	...	...	...	9

24. Unguent. Naphtoli.

B Naphtoli...	...	...	...	...	1—2
Adipis...	...	...	...	...	2
Lanolini	...	...	...	...	17

25. Hair Pomade.

Lanolini	...	...	...	...	50
Ol. Theobromat.					
Adipis...	...	...	...	aa	5
Tinct. benzoin. simpl...	...				3
Otto rosæ q.s.					

26. Salve for Chilblains.

Acid. carbolic	...	...	...	1
Lanolini				
Unguent. Plumb. carb.	. aa			20
Ol. olivæ	...	...	...	10
Ol. lavand. q.s.				

27. Salve for Rhinitis.

Acidi tannici	...	...	...	4
Iodoformi	...	...	...	2
Lanolini	...	...	...	30
Adipis...	...	...	...	3

28. Salve for Acne of the mucous membrane of the Nose.

Hydrarg. ammon	...	...	2
Lanolini	...	...	30
Adipis...	...	...	3

Beth ointments are to be applied with a small glass rod.

29. Olei cadini	...	...	...	1	Lanolini	...	...	...	...	4
30. Cupri oleatis	...	...	...	1	Lanolini	...	...	...	...	20
31. Acidi carbolici	...	...	...	1	Lanolini	...	...	...	...	30

LANOLINE ANHYDRICUM (*Liebreich.*)

Characters.—It is the pure lanoline deprived of its water, of a light creamy tint, but darker in colour than the plain Lanoline, odorless, and very slightly adhesive, so that certain objections which were raised against the earlier forms of this new and valuable therapeutic agent no longer apply. It is, like the former, miscible with all medicaments and liquids, even water including.

Properties and Uses.—Lanoline Anhydricum, which is an improvement upon the former, is now preferred by the dermatologists in the treatment of *cutaneous affections especially for moist surfaces, and is perfectly adapted for the application of medicaments to the mucous membrane of the mouth, nares, rectum, uterus and vagina.* Its usefulness as an application to moist surfaces is owing to its possessing *the most remarkable property of taking up by mere trituration a very large quantity of water,* and this property thus renders it suitable as an absorbent of moisture exuding from the skin. On account of its purity, antiseptic quality, want of rancidity and not harbouring germs,

it is a perfect basis for an unguent and perfectly adapted to all conditions of the skin. It has also special and hitherto unequalled advantages for using liquids in the form of ointments. In the preparation of ointments this lanoline should be used with a diluent as mentioned under former lanoline. Lanoline mixed with 4 p. c. of cocaine, is useful for burns and scalds, as it both relieves the pain and prevents the access of air to the burnt surface.

LANTANA BRASILIENSIS. LANTANINE.

YERBA. SAGRADA.

Part used.—*The Herb.* N. O.—*Verbinaceæ.* *Habitat.*—*Peru.*

Physiological actions.—Lantanine, the alkaloid, has a moderating effect on the circulation, and seems to slow nutritive changes, at the same time lowering the temperature.

Therapeutical actions.—In its native habitat, Peru, lantanine is considered a superior antipyretic to quinine, and has been employed with excellent and prompt effects in cases of *intermittent fevers*, in place of quinine. Lantanine is tolerated by the most sensitive stomachs, and under its influence the temperature is quickly reduced and hyperoxidation diminished. Intermittent fevers which seem rebellious to quinine yield to 30 grs. of lantanine in 24 hrs; in pills of 1 decigramme each (about $1\frac{1}{2}$ grs.) it can be readily administered, every 2 hrs, and from 10 to 20 of such pills may be given in the course of 24 hrs. If taken immediately after each "*hot fit*," these will rapidly diminish both in number and intensity, ere long ceasing altogether, and it is stated, will very rarely recur again when the treatment is discontinued. In 95 per cent of cases it will succeed in producing a cure. In order to reduce temperature in febrile conditions, from 15 to 20 grs., administered in pills of $1\frac{1}{2}$ gr. each every 2 hrs, are sufficient in 24 hrs. Lantanine was administered to 32 patients suffering from fevers of various types and degrees with satisfactory results. The fluid extract of the plant is so extremely unpalatable by reason of its intense and persistent bitter taste, that the patients do not take it at all readily, and so its alkaloid, lantanine, is suitable for administration in form of pills.

Dose.—1 to 3 grs. in pills; 15 to 30 grs. per day; or generally same as sulphate of quinine.

LAPIS DIVINUS (*O. G.*).

Syn.—*Lapis Ophthalmicus*, *Cuprum Aluminatum* (*Eng.*); *Kupfer-alum*, *Heiligenstein* (*Ger.*); *Pierre Divine*, etc. (*Fr.*).

Preparation and characters.—This is prepared by mixing, 24 parts each of alum, copper sulphate and potassium nitrate, in fine powder, heating them in a crucible until they fuse, adding to the mixture one part of camphor, and pouring the liquid mass upon an oiled slab. When cold, it is broken up, and preserved in bottles. It occurs in the form of greenish coloured flat pieces.

Properties and Uses.—It was formerly in considerable demand, and is yet officinal in the French and several other Pharmacopœas. A solution of one part in 250 parts of distilled water (2 grs. to 1 oz.), and filtered, is used as an astringent collyrium in conjunctivitis; in purulent conjunctivitis a stronger solution (8. grs. to 1 oz.), is employed.

LEPTANDRA VIRGINICA, *Nuttal.*

VERONICA VIRGINICA, *Linne.*

Syn.—*Black Root*, *Culver's Root*, *Culver's Physic*.

Part used.—*The Rhizome and Rootlets.*

N. O.—*Scrophulariaceæ.*

Habitat.—*United States.*

Characters.—Horizontal, from 4 to 6 inches long, and about $\frac{1}{4}$ inch thick, somewhat flattened, bent and branched, deep blackish—brown, with cup shaped scars on the upper side, hard, of a woody fracture, with a thin, blackish bark, a hard, yellowish wood and a large, purplish—brown, about six-rayed pith; rootlets thin, wrinkled, very fragile; inodorons; taste bitter and feebly acrid. It contains a resin, called *Leptandrin*.

Therapeutical properties.—*Leptandra Virginica* or its more active resin, *Leptandrin*, possesses alterative, deobstruent, cholagogue, laxative, and tonic properties. It stimulates the stomach, bowels and liver to action and increases the powers of the emunctories. It is an excellent cathartic in dyspepsia, operates with mildness and certainty, without producing debility. In typhus and bilious fever it removes black, tarry matter from the intestines. *It is useful for correcting and*

stimulating hepatic secretions in those cases where it is desirable not to produce debility by drastic alvine evacuations. Combined with Collinsonin, it is especially valuable in the treatment of chronic dysentery and diarrhœa, and for the treatment of children and delicate females, and chronic diseases, where there is deficiency of the proper biliary secretion, and where the former use of drastic cathartics render their repetition inadmissible, or any inflammatory condition of the stomach and bowels; the bowels can be moved and the secretion regulated with Leptandrin without danger of further prostration. In combination with Podophyllin and Euonymin, it forms an excellent cholagogue or hepatic stimulant in hepatic congestions and biliary derangements.

Leptandrin is also indicated in fevers of every type, cholera infantum, dyspepsia, jaundice, piles, glandular affections, chronic bronchitis, and bilious headache, *and in cases of disease of the intestinal canal, attended with constipation, in which the biliary and intestinal secretions are insufficient.*

Preparations and Doses.—Powdered Rhizome, 20 to 60 grs.

Fl. Ext., 30 to 60 mins; Solid Ext.,
3 to 10 grs.

Leptandrin, $\frac{1}{4}$ to $\frac{1}{2}$ gr. as hepatic alterative, 1 to 4 gr. as purgative.

Tr. (1 to 8 Pf. Sp)., $\frac{1}{2}$ to 2 fl drs.

LIPPIA MEXICANA.

Part used.—The Leaves. N. O.—Verbinaceæ.

Habitat.—Southern Mexico.

Therapeutics.—It possesses demulcent and expectorant properties, without producing nausea. It is considered especially useful *during season of catarrhal affections of the respiratory passages.* On account of its alterative effects on the respiratory mucous membrane, it is useful in those chronic affections so often rebellious to treatment.

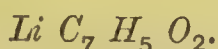
Preparation and Dose.—Tr. (1 to 5 Pf. Sp), 30 to 60 mins.

LIPANIN.

Characters.—A straw coloured oil containing 6 per cent. of free Oleic Acid, with an oleaginous taste.

Therapeutics.—It is highly spoken of by Dr. Galatti as a substitute for Cod Liver Oil. Dr. Herz says that lipanin is relished by children ; and vomiting, diarrhoea and hiccough are not produced by its use ; the body rapidly increases in weight. In cases of *tuberculosis*, pulmonary condition is much improved. It is combined with phosphorus in cases of *rachitis*.

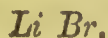
Dose.—One drachm or more in emulsion three times a day.

LITHII BENZOAS.

Characters.—A white powder, or small, shining scales, permanent in the air, odorless, or having a faint, benzoïn-like odor ; of a cooling and sweetish taste, and a faintly acid reaction. Soluble in 4 parts of water and in 12 parts of alcohol.

Properties.—It is useful as an anti-lithic in certain urinary diseases. (*Vide Hydrangea. Arborescens*).

Dose.—2 to 10 grs. ; maximum dose, 30 grs.

LITHII BROMIDUM.

Characters.—A white granular salt very deliquescent, odorless, having a very sharp, somewhat bitter taste, and a neutral reaction. Very soluble in water and in alcohol ; it contains much more bromine than Potass. Brom.

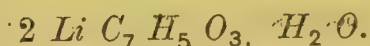
Properties.—It has a greater hypnotic effects than bromide of potassium, due to its containing more bromine and is indicated in nervous gouty complaints.

Dose.—5 to 15 grs.

LITHII GUAIIACAS.

It occurs in the form of scales containing one part of Lithia to three of Guaiacum Resin. Useful for *chronic gout and rheumatism*.

Dose.—2 to 10 grs.

LITHII SALICYLAS.

Characters.—A white powder, deliquescent on exposure to air, odourless or nearly so, having a sweetish taste, and a faintly acid reaction. Very soluble in water and in alcohol.

Properties.—It is useful in gout and rheumatism in doses of 5 to 20 grs.

LOBELIA INFLATA & LOBELINE.

Physiological actions.—Through its paralysing action on the cardiac branch of the pneumogastric, lobeline resembles in its action to nicotine group. It greatly exalts the respiratory activity, producing an acceleration of the respiratory movement. The amplitude of respiratory movements is increased. Under the influence of comparatively small doses of lobeline, the inhibitory influence of pneumogastric on the heart, as well as its action on the bronchial muscles, is suppressed. The respiratory muscles appear to receive special stimulation from the respiratory centre when the latter is under the influence of lobeline.

Therapeutical actions.—Lobelia possesses emetic, diaphoretic, expectorant, antispasmodic, diuretic, relaxant, resolvent and sialagogue properties.

(1.) *Emetic*.—Lobelia is an efficient emetic in the vegetable kingdom. It vomits kindly, without straining; it possesses antispasmodic and stimulating powers that no other emetic possesses. It brings no cramp in its operation, but gently relaxing the muscular fibre allows the operation to proceed without pain or retching; and its peculiarly stimulating powers happily adapt it to the treatment of *bilious remittent*, and *typhoid fevers*. It does not remove the recently taken food, or chyle, from the stomach, but seems to exert all its

strength against that cold morbid slime, or phlegm, which is the cause of the fevers, and removes it from the bottom, leaving all that is bracing to the stomach; so when the operation is over, the patient finds his strength is not diminished, as in the use of other emetics. Just as the Lobelia is about to operate, there is a sudden prostration of the animal fibre, a sense of sinking and depression. But for this distressing feeling, which never lasts much over a minute, and always passes off without injury, this would be the desideratum wanted in medical practice. *Lobelia is safe and efficacious as an emetic, much more so than tartar emetic.* From its peculiarly irritating qualities, it cannot be dangerous whether the dose be small or large; when a certain amount of irritation is produced, the whole is ejected from the stomach. It forms one of the ingredients of the *compound Vegetable Emetic Powder* (*Vide Ipecac*).

(2.) *Respiratory Affections.*—In *spasmodic asthma* it is most efficacious and in *hives and croup* in children, it sometimes breaks up the disease even in its worst form. It is also indicated in *bronchitis, pneumonia, influenza, catarrh and whooping cough.*

(3.) *Intestinal Affections.*—Lobelia is useful in *habitual constipation* due to muscular atony of bowels and deficient secretion, in *impaction of the cæcum*, and as an enema, in *infusion* in *strangulated hernia, intussusception and fecal impactions.*

(4.) *Nervous Affections.*—Among these, lobelia is indicated in *hysteria, epilepsy, neuralgia, chorea, convulsions and tetanus.*

(5.) Lobelia is also useful in febrile diseases, sick headache, false labor pains, and suspended animation (*Vide Capsicum*).

(6.) *Wounds, Ulcers, &c.*—Dr. V. N. Reichard highly recommends the use of Lobelia Inflata as a local application for *indolent sores, chronic erysipelas and especially in incised wounds.* In incised wounds it acts as an *hæmostatic and astringent*; the mode of employment of lobelia for this purpose in incised wounds, no matter how great the hemorrhage, provided it does not require a ligature, is to bring the edges of the wound together and to hold them for a few moments, while a pledget of cotton wet with tr. of lobelia, is applied. *The hemorrhage will then cease, and the parts adhere and although lobelia may not be a germicide, it will so entirely close up a wound as to render it perfectly aseptic.*

LOBELINE.

Lobeline, the alkaloid of Lobelia, possesses all the properties of Lobelia and is indicated in similar class of cases like Lobelia. In comparison with other agents which stimulate the respiratory functions, *it possesses advantage over hydrocyanic acid in its freedom from depressing action, while it surpasses aspidospermine in energy.* Hence from this property as well as from the already described physiological actions, lobeline is unquestionably an *Antiasthmatic, giving relief from asthmatic paroxysms in a few minutes.*

Preparations and Doses.—Powdered Leaves or Herb, 2 to 8 grs. as an expectorant; 10 to 20 grs. as an emetic.

Fl. Ext. Herb, 3 to 30 mins. as an expectorant; 10 to 60 mins. as an emetic.

Solid Ext. Herb, $\frac{1}{2}$ to 2 grs.

Tr. (1 to 8 Pf. Sp.), 10 to 30 mins.

Lobeline, $\frac{1}{4}$ to $\frac{1}{2}$ gr. as a diaphoretic and expectorant; 1 to 5 grs. as an emetic.

Oil of the seed, 2 to 5 drops.

LYCOPERSICON ESCULENTUM.

SOLANUM LYCOPERSICUM.

Syn.—*Tomato, Love-apple.* *N. O.*—*Solanaceæ.*

Part used.—*The Ripe Fruit.* *Habitat.*—*Everywhere cultivated.*

Therapeutical properties.—Tomato is an antiscorbutic and an highly nutrient vegetable, being a stomachic, cathartic, and generally a potent blood purifier. As it exerts a special curative action over ulcerative affections of the mucons lining of the mouth and other cavities, it is useful in *nurse's sore mouth, canker, &c.* both internally and externally. It also possesses *germicidal properties*, protecting the system from disorders due to bacteria and diseased germs, such as *typhoid fever, summer diarrhœa and English cholera, which are due to low organisms.*

This property is due to its having contained *sulphur* which becomes separated in the intestines by the chemical process during digestion. They are much employed in the preparation of sauces.

Preparation and Dose.—Fl. Ext. of the Ripe Fruit, 30 to 60 mins.

LYCOPODIUM CLAVATUM.

Syn.—*Club Moss, Vegetable Sulphur.* *N. O.*—*Lycopodiaceæ.*

Part used.—*The Sporules.* *Habitat.*—*Northern Hemisphere.*

Characters.—An inconspicuous plant usually resembling Moss, and found on heaths. The sporules occur as fine powder, pale yellowish, very mobile, inodorous, tasteless, floating upon water and not wetted by it, and burning quickly when thrown into a flame. Under the microscope the granules are seen to be four-sided, reticulated, with short projections on the edges. For medicinal purposes white lycopodium is considered inferior, while yellow is useless. The spores are styled *vegetable sulphur* on account of their yellow colour.

Therapeutical properties.—Lycopodium possesses diuretic, demulcent, antispasmodic and emmenagogue properties, and in large doses it is emetic and purgative. *It is of real value in frequent micturition, irritable bladder, cystospasms, where such is not dependent upon actual disease or foreign body.* It has been found useful in *spasmodic retention in children.* As regards its specific effects in *enuresis*, Mr. E. Hurry Fenwick states “that for this distressing complaint, whether suddenly developed as the result of accident or operation, or in other cases where the incontinence of urine had been of several years’ standing he was acquainted with no drug which gave such entirely satisfactory results as the tr. of lycopodium. He had first given it to check the nocturnal enuresis of children; but finding it so very specific, that he was next induced to try it in adults, with such astonishing results that micturition was reduced from six to eight times an hour to once in two hours.” The spores are employed externally for their *absorbent qualities, in erysipelas and various cutaneous affections.* Besides their use in medicine, as just alluded to, they are occasionally employed in *pharmacy for covering pills*, the object sought being to render them tasteless and

prevent their adhering together. Lycopodium spores however, from their inflammable nature, are used in the preparation of fireworks and for the production of artificial lightning at the theatres.

Preparations and Doses.—Spores, 10 to 30 grs.

Tr. (1 to 8 Pf. Sp.), 15 to 60 mins.

MANACA.

FRANCISCEA UNIFLORA.

Syn.—*Mercurio-Vegetal.* *Part employed.*—*The Root.*

N. O.—*Scrophulariaceæ.* *Habitat.*—*Brazil.*

Characters.—A shrub, with alternate, oblong, acuminate leaves, shortly petioled; flowers solitary and terminal, of a penetrating odor, resembling that of narcissus. The stem about half an inch in diameter, very tough and woody—the centre being of a yellowish colour and having a dark and very thin bark. The root bark contains more of the virtues of the plant. It contains an active principle, *Francisceine*.

Physiological actions.—(1.) Manaca has a stimulant action on the motor centres of the spinal cord; abolishes its reflex function in full physiological doses. (2.) Depresses the cardiac and respiratory reflex centres. (3) It is a powerful excitant of the lymphatic system; stimulates the salivary, gastric, intestinal and cutaneous glands, the liver and kidneys, thus eliminating morbid matter from the blood by the skin and kidneys. (4.) It has two actions on the muscular system: first, motor excitation, and second, motor depression. The effects accord with the size of the dose: the small exciting and the large primarily exciting, and then depressing motor force. Three or three and a half hours being the probable limit of action. (5.) Large doses frequently produce severe pains about the head and along the spine.

*Therapeutical actions.**—Manaca possesses alterative, anti-rheumatic, anti-syphilitic, cholagogue, depurative, diuretic, emmenagogue and purgative properties. Small doses produce a tonic effect on the system by improving the appetite and assimilation and thus indirectly support-

* E. P. Brewer, M. D., Norwich, Conn.

ing the heart and lungs ; small doses strengthen and improve all the structures of the body, until large doses weaken the intestines and exhaust the glands. *Hence we may fairly declare that the tonic effects are the sequences of small doses, and depression of full doses.*

(1.) *Rheumatic Affections.*—In the province of Amazonas, no remedy is so extensively used than manaca ; in the damp, shady forests, rheumatism, principally in the chronic form, is a very common disease and manaca is regarded by all classes as the remedy. Two doses generally suffice to control even severe attacks. A decoction is made of a small piece of the root, of which one-half is taken in the afternoon, and the other at bedtime. After the second dose the patient complains of severe pains about the head and along the spine, which, after a few hours, end in profuse perspirations and sleep. In the morning rheumatism has disappeared, and the patient is happy, till another attack calls for more manaca (E. W. Hansen, M.D., Jamaica). In Brazil, where manaca is indigenous it is extensively employed and enjoys the reputation of specific powers in both acute and chronic rheumatism and there are reported a number of cases of its use and favourable action (*Vide* “ Clinical Reports.”)

(a.) *Rheumatic Arthritis.*—In rheumatic arthritis the diuretic, cathartic and hepatic stimulant properties eliminate the urates and prevent their deposition into the joints. Here large doses (dr. i.) and frequently repeated (every four hours) are required until free catharsis and diuresis occur. Relief will soon be felt but the effect will be transitory, and palliative rather than curative.

(b.) *Chronic Articular Rheumatism.*—Here as an adjunct to the lithic elimination, the alterative action on the lymphatic glands is utilized and the products of inflammation are removed. Here full doses should be given until the diuretic action has been established, then small doses for a long period should be given in order to excite and maintain the absorbent system.

(c.) *Chronic Muscular Rheumatism.*—Here the alterative and eliminative processes materially assist in effecting a cure, but if unaccompanied with other qualities, manaca would possess no distinctive properties nor furnish superior results to the host of remedies in use. Happily it has another action, and that directly upon the part diseased

—the muscle itself. It stimulates the motor force, removes the stiffness, and *ennui*, regenerates the muscles by meeting and overpowering the advance of local debility. Here small doses should be given from the onset. By so doing we shall favour elimination, absorption and motor stimulation. The last named action is only of value when produced by small doses. One small dose may be wisely administered every third hour, and thereby we maintain motor stimulation. (*Vide* Physiological actions.)

Resume.—In the treatment of these three types of rheumatism, varied action is required of the same drug. In the first elimination, in the second elimination and absorption, and in the third elimination, absorption, and motor stimulation; the actions though varied, are linked together to form the whole chain of the physiological symptoms; singly they represent a part of the grand whole. To utilize a whole or part of the physiological phenomena, we administer a full or small dose, as just mentioned under each type. Excepting rheumatic arthritis, the action of manaca is strictly curative, and even in that so far as elimination is concerned, it is truly curative, yet it must be borne in mind that the articular deposits will not yield to this remedy, if, indeed, they will to any other. In articular and muscular rheumatism drug action is curative; the source of the disease is sought after and removed; truly the only alleviating power possessed, resides wholly in that quality to remove the cause by inculcating activity in the eliminative and absorbent systems. It contains no qualities whereby the disease may be suppressed, only to reappear with redoubled vigour. *The whole scope of its action is purely and simply curative.*

(2.) *Gastro-Intestinal Affections.*—(a.) As it stimulates the mucous glands, the gastric follicles also share increased activity and augmented gastric power results. This action, if arranged against disease would, seem potent in catarrhal states of the stomach. Probably it does not relieve the disordered digestion, but increases to nicity of the numerous glands and transform perverted secretion into normal state. (b.) In catarrh of the duodenum and upper part of the intestine, decisive results may be expected. It controls and corrects the numerous secretion and heightens the intestinal movements. The action on the secretions is not unlike that of chloride of ammonium.

But manaca and chloride of ammonium are stimulants to the normal gland and produce catarrh if too long employed ; likewise both correct catarrhal states, and probably do it by their stimulant and alterative properties.

(3.) *Jaundice*.—When the catarrh involves the biliary ducts and by obstructing the flow of bile produces intestinal fermentation or jaundice, manaca meets at every turn, the abnormalities. It stimulates the liver to increased activity ; and in simple jaundice depending upon hepatic inactivity and associated with constipation, manaca may be of considerable service. The dose should be full and repeated every 3 or 4 hours. The portal congestion will be unloaded by the cathartic action and the free flow will favour the subsidence of the hepatic congestion.

(4.) *Bright's Disease*.—The diuretic properties suggest its use in such diseases of the kidneys in which the urine is scanty. It is believed that it is best adapted in chronic cases ; either desquamative or interstitial nephritis. The diuretic action seems to depend upon special affinity, for there is no increase of the pulse, or arterial tension, or in fact, any general condition to explain this action. There is local stimulation and alterative action on the gland itself as it has on the other glands.

(5.) *Syphilis*.*—In the province of Maranaô, Manaca is the principal agent used in the treatment of secondary syphilis, generally combined with the leaves of *Bignonia Braziliانا* (Lamk), called by the natives *Caroba*. Dr. Bentley has successfully treated secondary syphilis with this drug simply, and places perfect confidence upon its workings. In syphilis even after such remedies as Iodide, *Stillingia* and *Berberis* had failed, it is very highly spoken of by eminent physicians both in Europe and America.

(6.) *Scrofula*.—It is also found successful in scrofulous diathesis.

(7.) *General Tonic*.—In small doses it acts a general tonic. In this it bears alliance with *Nux Vomica*, serving to immediately increase the tone of the system. Both Manaca and *Nux. Vom.*, affect the motor centres of the spinal cord, *Nux Vom.*, producing tonic muscular spasms

* C. W. Hansen, M. D., Jamaica.

and *Manaca clonic spasms*; both increase the gastric and intestinal juices and stimulate the hepatic secretions, manaca acting with greater force in the last three named capacities.

(8.) *Clinical Observations and Reports.*—Out of numberless clinical reports I give only a few following, as the space does not permit me for many :—

CASE 1.*—My first experience with this drug was two years ago in the case of Mrs. D. a young married lady of marked rheumatic diathesis who had been afflicted for several weeks when she came under my care with an extremely severe attack of acute articular rheumatism. She had been treated during the early weeks by quite a distinguished homœopath, and subsequently by a member of the regular profession, without any avail. Before taking charge of the case, I had received a sample of manaca, so I concluded this case a good one to test its virtues. I did so, and with the happiest results, for the pain and swelling disappeared almost as if by magic and the patient made a rapid and good recovery, and several of the relatives of like diathesis now keep manaca in the house to use upon any indication of an attack, and apparently with perfect success. I have prescribed it in numerous other instances always with satisfactory results, so that I now regard it as a sort of “sheet anchor” in acute and subacute rheumatism.

CASE 2.†—A middle-aged man, who had been suffering for some time with articular rheumatism. He had resorted to other remedies and received no benefit from them. Was called to him and gave him the manaca, without any other medicine, in the usual doses. Did not see him again for several days. On my seeing him again, he said that my medicine had “done the business,” leaving him cured, without a remnant of that disease remaining, he said the relief soon came on after using the remedy.

CASE 3.‡—A man æt. 35, who had been loading cars with wheat in sacks for a number of weeks, was taken with rheumatism of a subacute character, had tried many things without relief. Put him upon the following: fl. ext. manaca, oz. j; syr. simp. oz. j; aqua. dest. oz.

* H. M. Harrison, M. D. Bushnell, Ill.

† F. Foster, M. D., Sandy Hill, N. Y.

‡ J. H. Bundy, M. D.

ij. M. Sig.—teaspoonful four times daily, until it acts upon the bowels, then two or three times daily. It stopped the pain in 24 hours. He could take the dose four times daily, and it only kept the bowels a little soft, but did not physic. In four days from the time he began the treatment he resumed his labors as usual ; continued the medicine until taken up, took no more and remains well.

CASE 4.†—Mrs. A. had rheumatism of left knee and ankle joints, which had existed about four weeks ; had taken everything recommended for it with little benefit. R. fld. ext. manaca oz. ss. Sig. take 10 drops four times daily. In three days pain gone, but considerable soreness remains ; continued treatment three weeks and was well. She resumed her household duties on the 8th day.

CASE 5.†—Mrs. K. rheumatism of hand and shoulder, had existed six months. R. fld. ext. manaca, oz. j. Sig. gtt. x, four times daily ; was relieved at once and cured in six weeks.

CASE 6.†—Harry M., Oct. 19th, rheumatism in both feet, existed for a year. R. fld. ext. manaca ; oz. j. Sig. gtts. xv, four times daily. In two weeks pain all gone ; made a good recovery in ten weeks. Several others here have, and are using the manaca with equally good results.

Preparations and Doses.—Powdered Root, 8 to 20 grs.

Fl. Ext. 10 to 60 mins ; best commenced with 5 mins. and gradually increased to 60 mins. given thrice a day before meals.

MANGANESII OXIDUM NIGRUM.

Mn O₂.

Syn.—*Black Oxide of Manganese ; Manganese Dioxide.*

Characters and Tests.—A heavy, greyish-black more or less gritty powder, permanent in the air, odorless and tasteless, and insoluble in water or alcohol. At a red heat the Oxide gives off oxygen gas ; and if heated with hydrochloric acid, it causes the evolution of chlorine gas.

Therapeutical Properties.—It is now employed in place of potassium permanganate, as the latter oxidises the tissues and cannot be absorbed as a permanganate.

† J. H. Bundy, M. D.

(1.) *Amenorrhœa*.—It is extensively employed in amenorrhœa ; the menses usually appear after administering it for three or four days and occasionally as soon as after the third dose. In some cases in which it had been tried by Drs. Ringer and Murrell, the menstruation was induced after absence for between one and two years, and it was found of much value in many cases at *puberty*.

(2.) *Gastric Affections*.—It has been found useful in *pyrosis gastro-dynia* and irritable conditions of the stomach with pain after food, in place of bismuth preparations.

(3.) *Jaundice*.—It is an excellent remedy in cases of *jaundice from catarrh of the biliary passages* in the following combination : R. Mang. Dioxide grs. 2, Podoph. Res. gr. $\frac{1}{4}$, Fellis Bovis grs. 3, M. ft. pil. 1. It is likewise beneficial in *jaundice of malarial origin* as follows : R. Mang. Dioxide gr. i, Quin. Sulph. gr. $\frac{2}{3}$, Ferri Sulph. gr. $\frac{2}{3}$. M. ft. pil. 1.

(4.) *Gout*.—It is useful in disordered digestion of gouty subjects, and to restore the activity of the assimilative functions after attacks of gout.

(5.) *Tonic and Alterative*.—It is useful, instead of iron, in *debilitating diseases, anæmia, syphilis, scurvy and skin diseases*.

(6.) It assists in converting uric acid into urea ; and is employed in scarlatina, diphtheria, erysipelas, puerperal fever and pyæmia.

Dose.—3 to 10 grs. in pill.

MANGIFERA INDICA.

Syn.—*The Mango* (Eng.) ; *Amba* (Bom.) ; *Am, Amb* (Hind) ; *Keri, Ambo keri* (Guj) ; *Amra* (Sans.) ; *Naghzak, Darakhte ámba* (Pers) ; *Ambaji* (Arab) ; *Mampazham* (Tam.)

Parts used.—*The Bark, Fruit, Gum-resin, Kernel and Leaves*.

N. O.—*Anacardiaceæ*. *Habitat*.—*East and West Indies*.

Characters.—A large tree, with simple, long, lanceolate, darkish-green coloured leaves, which when young are tender and reddish coloured ; taste, astringent ; odor, aromatic. The bark, dark brown exter-

nally and longitudinally fissured ; internally pale white or reddish coloured ; taste, astringent and odor agreeable. The fruit, a large fleshy drupe, usually ovoid or kidney-shaped but differs very much in size, shape and flavour, according to the several varieties cultivated and the localities in which it is found. The stone, compressed and fibrous, containing a large oblong, compressed seed (kernel) having an astringent and bitter taste. A gum resin exudes from the fruit at the time of flowering and just before ripening, and occurs also on the tender portions of the tree ; it is slightly viscid and has a faint aromatic and terebinthinate odour. A gum is also obtained from the bark ; it is pinkish in colour, soluble in water, with a faint aromatic odour, when dried it occurs in small brittle pieces variable in colour and lustre.

Chemical Composition.—The kernel contains tannic acid. The unripe peeled fruit contains citric and malic acids, traces of tartaric acid, a salt of potash, &c.

Therapeutical properties.—The Mango, the fruit of this tree is highly esteemed in tropical countries ; it is considered by the natives as the most delicious and choicest fruit in India. It is in fact the luxury of the natives of the East. When ripe it is refrigerant, and fattening, and somewhat laxative and diuretic. The unripe fruit possesses acid and astringent properties, and is stomachic and digestive when preserved with salt. Unripe mangoes peeled and deprived of stone and dried, are called *Ambosi* or *Amchúr* ; they possess antiscorbutic properties and are largely employed as an article of diet by almost all classes (*Vide* Chemical composition.) The kernel is employed in Brazil and in India as an anthelmintic in *lumbrici* ; it is also astringent and is useful in *diarrhœa*, *hemorrhoids* and *menorrhagia*. The Indians have long employed the leaves and petioles as masticatories to give tone to the gums, and the smoke of the burning leaves is employed in affections of the throat ; the tender leaves are also useful in *diarrhœa*. The gum-resin mixed with lime-juice or sweet oil and the rind of the fruit, are employed by the Hindoos in *scabies* and *skin affections* respectively.

Mangifera Indica has recently been introduced in Europe and America as a therapeutic agent in the form of fluid extract made either from the fruit (rind) or the bark. *It has an astringent with a special tonic action on the mucous membranes. In hemorrhages from the lungs*

intestines and uterus and in muco-purulent discharges from the uterus and bowels there is no equal, when given as follows :—R. Ext. Mangif. Ind. Fl. grms. 10. Aquæ Dest. grms. 120. M. Sig. A teaspoonful every hour or two. It is likewise useful in diarrhœa and dysentery.

Its effect is great in *diphtheria and other throat affections* when the fl. ext. is applied locally as well as in the form of a gargle in the proportion of 10 to 125 grms. of water. This same solution, or a decoction of the bark is beneficial as a gargle in cases of *stomatitis*, and as an injection in *leucorrhœa and prolapse of the rectum and vagina*. Also useful in *nasal catarrh*.

Preparations and Doses.—Powdered Bark, 10 to 60. grs.

Powdered Kernel, 20 to 60 grs.

Fl. Ext. 15 to 60 mins.

MANZANITA.

ARCTOSTAPHYLOS GLAUCA.

Part used.—The Leaves. *N. O.*—Ericaceæ.

Habitat.—California.

Therapeutical properties.—The leaves have astringent, blenostatic, sialagogue and tonic properties, with a specific action upon the urinary organs. It resembles in its range of action, its congener, *Uva Ursi leaves*. It is chiefly beneficial in the treatment of the diseases of the genito-urinary organs ; hence it is useful in gonorrhœa, gleet, gravel, vesical catarrh, incontinence of urine, prostatorrhœa, chronic nephritis, diabetes insipidus, leucorrhœa, and menorrhagia. In combination with Damiana and other drugs it is considered a specific in the treatment of *spermatorrhœa* (*Vide Aphrodisiacs, Part II.*)

Preparations and Doses.—Powdered Leaves, 15 to 60 grs.

Fl. Ext. of the Leaves, 20 to 60 mins.

MASSAGE.

Massage—or rubbing—as a method of treatment has been known for ages, but more attention has been paid to it during recent years by

the medical profession generally, especially *in cases of paralysis of the several extremities*, owing to the recommendations of Dr. Weir Mitchell, Dr. Playfair, and others. It is besides very useful in the treatment of *diseases of some of the abdominal organs, flat-foot, &c.*

(1.) *Dilatation of the Stomach.*—Massage forms one of the mechanical means employed for the relief of dilatation of the stomach. It is performed in the following manner:—After having well marked the stomach, you, produce with palm of one hand, or of both hands, pressures at first light, then stronger and stronger, going from the greater curvature of the stomach to the pylorus, then you endeavour to grasp the stomach and knead it, always aiming to press the alimentary mass towards the pylorus; the *seance*, which should not last more than half an hour, *is terminated by massage of the intestine, and especially of the colon.* In stomachs that are very much dilated, and especially in the constipated, this practice of massage of the abdomen is excellent, not because it acts directly on the dilatation or much diminishes the extent of it, but because it provokes the contractions of the stomachs, and of the intestine, and thus opposes the too prolonged sojourn of aliments in the digestive tube.

(2.) *Diseases of the Intestines*—(a.)—Massage is a powerful agent for good or for evil, and great care must be used in choosing proper cases. If the bowel is actually inflamed or ulcerated increase of mischief or perforation might ensue. But in cases of typhlitis with accumulation in the ascending colon, more can often be done than prescribing morphia, diet, and rest, and thus leaving the cause of all the mischief still there to irritate. Injections and careful rubbing of the upper part of the colon, away from the seat of tenderness, give rise to easy evacuations, and the ascending colon, has been gradually emptied from above downwards without excessive action of the muscular coats and risk. These rules are applicable, of course, to cases where there is accumulation in front of the cæcum. Scores of cases of obstruction, of typhlitis and ulceration of the bowels could be prevented by this kind of treatment.

(3.) *Diseases of the Liver and Gall-Bladder.*—The same remarks will apply to the congested or fatty liver, or that in which the bile becomes inspissated and incipient obstruction is present. It is

astonishing how the size of the organ becomes diminished, and the symptoms disappear after rubbing and kneading once a day for from 2 to 4 weeks, assisted of course, by other treatment. It was evidently intended by nature that the muscular movements of the intestinal canal should be aided by active contractions of the muscles of the abdomen, and it is equally evident that the liver and gall bladder should be pressed upon directly by the abdominal muscles, including the diaphragm; and if gentlemen will persist in driving to their places of business and back, and ladies will go out every afternoon sitting in one position, and hardly ever have a real walk from year's end to year's end, they must expect to suffer. The liver becomes immense in size, inspissated bile remains in the tubes, the same lies dormant in the gall-bladder and gall stones form. Because it and the gall bladder are never well kneaded as they would be by the abdominal muscles if the patient took reasonable exercise; and in the same way the thin muscular walls of the intestines can never propel their contents, unless aided by the out side pressure by the abdominal muscles. Wealthy patients will drink gallons of the several aperient waters in a year to act on the bowels, but it is almost impossible to persuade any of them to take a little exercise, which would assist the thin muscular walls in propelling their contents, and also express an increased quantity of bile, an aperient, into the duodenum. This can be elucidated by a number of cases improved by massage, but the following two typical cases out of a large number, are quite sufficient. The method of performing massage of the muscles of the abdomen consists in making light passes over the oblique muscles, followed by a few slow and superficial kneadings and some strokes with the side of the hand:—

CASE 1.—A man was suffering from a large swelling in the abdomen, supposed to be malignant, which by pressure caused obstruction. He said that his bowels had not been moved for six weeks. He could not take much food, getting thinner and weaker every day, but there was no cachexia of malignancy. On examination abdomen was found immense in size, very tympanitic every where except on the left side, where there was a large swelling 6 inches in length and 3 inches in breadth. It was very hard and

irregularly rounded in shape from side to side; it was not surprising that any one would mistake it for a malignant tumour. He was recommended to have large injections of thin gruel to be introduced by means of a long tube twice a day, and the mass to be well and carefully rubbed twice a day from above downwards, especially at the lowest part; very little fæcal matter was passed during the first two days, but on the third day a large quantity was evacuated. The passage daily of hard fetid fæces continued for about 4 days, the swelling entirely disappeared, and the patient was allowed to go out. In a few weeks he again presented himself suffering from accumulation and obstruction in the left colon. This time massage and large injections soon relieved him. The descending colon seemed to have lost its tonicity.

CASE 2.—A lady about 54 years of age, who had many years ago suffered from a severe attack of typhlitis, was now laid up, and complained of pain in the right iliac region once more. The bowels had been rather costive for some time, but were moved every day or every other day. They were now more costive than usual, the appetite was poor, there was slight tenderness in the right iliac region, and a large swelling extending from there to the right hypochondriac region. There were great debility and anæmia and the pulse was rapid and small. Evidently the colon was distended by a hard fæcal mass from the cæcum to the right angle. Very large injections twice a day were recommended and gentle rubbing over the upper end of the right colon. Very little fæcal matter was passed during the first 24 hours, but after that the quantity increased, and hard scybalous masses were evacuated daily until the swelling entirely disappeared. In this case the massage was brought to bear on to the upper third of the mass only at first, as the cæcum was tender, but as the scybala became dislodged above and extended, the tenderness became less. Ultimately the whole mass was removed and the patient got quite well. Aperient remedies given before the illness came on never seemed to act thoroughly, and although given at one period to assist other treatment they never satisfactorily acted on the bowels.

(4) *Flat-Foot*.—In painful flat-foot one must seek to strengthen by massage all the muscles which are concerned in the support and preservation of the arch of the foot. Those are in the first place the Tibialis Posticus, Triceps Suræ and small muscles of the sole, which by their contraction hold the piers of the arch. The method of massage is as follows :—To begin with, the region of the Tibialis Posticus is forcibly tapped, then the triceps suræ and the sole muscles. Thereafter the same parts are powerfully kneaded with pliant grasps ; and finally the foot and leg are rubbed centripetally. The painful points are at first gently and then more strongly pressed and rubbed. Landerer has, in accordance with his view of the mechanism of flat-foot, treated the muscles alone, and quotes 8 cases of excellent result. In some the form of the foot altered, a certain arching taking place resembling closely the natural shape.

MCDADE'S SUCCUS ALTERANS.

Syn.—*McDade's Compound, Mist. Antisyphilitic (McDade), Alterative Comp-McDade, Bamboo Brier compound, Mist. Smilacis Co., Mist. Stillingia Comp.*

Composition.—Fl. Ext. of Smilax Sarsaparilla, Parts 4.

„ „ „ Stillingia Sylvatica (Queen's Delight),
Parts 4.

„ „ „ Lappa Minor (Burdock), Parts 4.

„ „ „ Phytolacca Decandra (Poke Root),
Parts 4.

Tincture of Xanthoxylum carolinianum (Prickly
Ash), Parts 2.

Therapeutical properties.—This combination of alteratives is found very efficacious in the cure of obstinate syphilitic and scrofulous affections. It is said to possess specific antisiphilitic powers ; the formula is one which, in a crude form, is said to have been employed for many years with success by the native doctors on the plantations of Alabama. This formula is the result of the investigation carried on into the nature of the remedy by Dr. McDade. He has used this compound as an alterative with great success in cases of syphilis, scrofula and skin affections.

Dr. McDade says :—“ I could detail many cases illustrating the wonderful antisymphilitic powers of this remedy ; but I will give you only two. 1. A young negress contracted syphilis from her husband, who resided on a neighbouring plantation and visited his wife generally about twice a week. This was long before the war (1861). They were both treated by the late Dr. Alfred Macdonald, and they were apparently cured. But they had several children subsequently, and in rapid succession, all of whom died of syphilis soon after birth. The husband and wife were then treated by the Indian decoction and were permanently cured, as shown by the fact that they had several healthy children afterwards at full term, who grew to manhood and to womanhood. None of them ever showed any signs of syphilis, nor have any of their children. Those of them who have died, died of other diseases of a climatic character. 2. A negro girl, twenty years old, belonging to Mr. Cobb, had syphilitic iritis. This case had resisted all treatment by the best physicians of the country. She was nearly blind. She was taken in charge by Mr. Barnett's coloured man, Lawson, who gave her the Indian remedy, and she was perfectly and permanently cured, as she never afterwards showed any symptom of the disease. These cases occurred more than twenty-five years ago, and have been under my observation ever since, so you will see that the cures are permanent.” Dr. Rush Jones, residing in the city of Montgomery, has a larger field of observation than Dr. McDade, residing in the country, and has really had a larger experience with McDade's antisymphilitic fluid extract than any one else ; and he speaks most favourably of it. He has been treating syphilis for more than forty years, and he says he now has but little dread of undertaking the worst cases, since he has adopted the use of McDade's formula. He repudiates mercury and iodide of potassium entirely, and says they are unnecessary when McDade's formula is used.

Preparations and Doses.—Fl. Ext. Alterative Co., a teaspoonful in water thrice a day before meals, and gradually increased to tablespoonful doses.

Solid Ext. (Parke, Davis) 10 to 40 grs.

Pil. Alterative Co. (P., D.), 3 grs.
each ; dose 3 pills.

Syr. Alterative Co., (P., D.), 1 to 4
fl. drs.

MENISPERMUM CANADENSE.

Syn.—*Canadian Moonseed, Yellow Parilla, Yellow Sarsaparilla.*

Part used.—*The Rhizome and Rootlets.*

N. O.—*Menispermaceæ.*

Habitat.—*America.*

Characters.—Rhizome several feet long, about a quarter of an inch thick, yellowish-brown or brown, finely wrinkled longitudinally and beset with numerous thin, rather brittle rootlets ; fracture, tough, woody ; internally yellowish, with a thickish bark, a circle of porous, short, nearly square wood-wedges, and a large, central pith ; nearly inodorous ; taste bitter.

Physiological actions.—Moonseed exerts its influence upon the gastric and salivary glands. It stimulates the absorbent system, and promotes the depurative action of the kidneys.

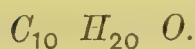
Therapeutical actions.—It has alterative, detergent, diuretic, laxative, resolvent, sudorific, stimulant and tonic properties. It acts as a solvent in chronic adhesions. It has a power of resolving calculous deposits, and of favouring their expulsion, and thus renders good service in gravelly disorders ; is also useful in gout, rheumatism and dropsy. It is a pleasant bitter tonic. It is used with decided benefit in all eruptions of the skin, scrofula, syphilitic injections, or to promote the exhalations of the body, or insensible perspiration. As it acts as a bitter tonic and promotes the secretions and excretions of the alimentary canal, it is useful in cases of constipation, loss of appetite, indigestion, chronic gastritis, torpor and hypertrophy of the liver. It is also indicated in tuberculous affections and glandular enlargements.

Preparations and Doses.—Powdered Root, 20 to 60 grs.

Fl. Ext., 30 to 60 mins.

Menispermin (concentration), 1 to 4
grs.

MENTHOL.



Syn.—*Japanese Peppermint, Peppermint Camphor (Eng); Pepa-raminta-naphula (Guj).*

Characters and Tests.—Menthol, deposited from Chinese oil of peppermint on exposure to cold, occurs in colourless acicular crystals, usually more or less moist from adhering oil. It looks like the sulphate of magnesia to the naked eye but more talc-like and is rather bulky, one ounce filling a two fluid ounce bottle. It is sometimes found in fused crystalline masses. If left exposed it will evaporate and disappear at ordinary temperatures of living rooms. Its melting point should not exceed 110° F. The hardest masses do not melt below 108° F. It has the odour of peppermint but less pungent; when tasted, it produces warmth (somewhat sharpness) on the tongue, or, if air is inhaled, a sensation of coolness penetrating the whole mouth. It is sparingly soluble in water, but dissolves readily in rectified spirit and ether, and in both fixed and volatile oils; reaction, neutral. Boiled with sulphuric acid diluted with half its volume of water, menthol acquires an indigo-blue or ultramarine colour, the acid becoming brown. It should entirely be dissipated by the heat of a water-bath.

Physiological actions.—Menthol is found to be a paralyzant of cerebro-spinal nervous system, obtunding and in large doses destroying sensations and reflex sensibility, increasing respirations and lessening the depth of respirations. It stimulates the heart muscles. It stimulates to contraction the capillary blood vessels of the nose and throat when locally applied. It is a powerful destroyer of bacterial life.

Therapeutical actions.—Menthol possesses local anæsthetic, analgesic, anodyne, antiphlogistic, antiseptic, germicidal and stimulant properties. Menthol has long been used in China and Japan as a specific for headache. Internally it acts as a stimulant to the heart and anodyne to the nervous system. Externally applied it controls superficial inflammation, and by its analgesic and anæsthetic properties it relieves pain, heat, itching, smarting and

swelling, thus rendering service in pruritus of different parts of the body, painful herpes, urticaria, itching exanthemata and cutaneous eruptions. It forms an excellent anodyne application in nervous, neuralgic, migrainous and congestive headaches, tic douloureux, neuralgic and rheumatic pains in the various parts of the body, toothache, painful piles, sunstroke, burns, &c. By its germicidal and antiseptic properties, it is indicated in typhoid fever, diphtheria, measles, erysipelas, scarlet fever, cholera, tuberculosis, infusorial catarrh, coryza and other affections of the air passages, ringworm, &c. With these few preliminary remarks I pass on to a full practical description of each of these affections as follows:—

(1.) *Diseases of the Respiratory Organs.*—Its volatility renders it easy to administer it in diseases of the air passages, even to infants and very feeble persons.

(A) *Coryza or Nasal Catarrh.*—Its application, or contact of its vapour, stimulates to contraction the capillary blood vessels of the nose and throat, always dilated in the early stages of cold in the head. It arrests sneezing and renal flow. The remedy may be employed by means of a general impregnation of its vapours through a room or house, or locally to the nostrils and air passages; for both which purposes there are several methods: (a) A ten to twenty per cent. solution of menthol in almond oil, in liquid vaseline or in one of the many other odorless paraffin compounds, can be sprayed into the nose or throat, or about a room. (b) By placing twenty or thirty grains in an apparatus, specially designed by Rosenberg for administering the drug in cases of laryngeal phthisis, by inhalation in the form of vapour mingled with steam. (c.) By placing a similar amount or one or two drachms of the oily solution in a Lee's steam-draft inhaler, or bronchitis kettle. (d) By a simple arrangement of placing a saucer of water containing a similar quantity of the crystals over a gas burner in the hall, by means of which the whole house is kept constantly permeated with the drug. (e) But by far the most convenient method for personal use is to carry always the ingenious pocket menthol inhaler, known as Cashman's, which should be used not only on the first approach of an attack, but three or four times a day during an epidemic, and

always in cold-catching weather by those subject to head colds. It is not to be simply smelt, but well sniffed or inhaled, so as to cause some tingling or smarting, a sensation which is *quickly followed by that of coolness, and openness of the previously stuffed and heated nostrils*. (f) Menthol may also be used outside as an ointment made by the following formula of Salisbury:—R. Menthol dr 1, Zinci Oxidi dr. 1, Acid Carbol. dr $\frac{1}{2}$, Simple Cerate ozs. 2, Ol. Amygd. Dulc. oz $1\frac{1}{2}$. M. Sig. Apply to nostrils in all cases of catarrh (and also for Infusorial Catarrh and Hay Fever). (g) A snuff consisting of Menthol, Ammon. Chloride and Boric Acid is also recommended for nasal catarrh.

(B) *Influenza or Epidemic Catarrh*.—It is used with success in influenza by its destructive (*antiparasitic*) action on the parasite found in the air passages of patients suffering from the disease called also *infusorial catarrh*; the parasite as called *Asthmatos Ciliaris*. Its inhalation also gives an agreeable glow to the air passages and immediate relief to the irritation that causes cough in cases of infusorial catarrh, contracts the capillary blood vessels of the nose and throat, and arrests sneezing and rhinal flow. The treatment, both internally and externally, is as follows:—

(a) R. Menthol dr. 1 Ext. Glycerrzæ Liq. ozs. 3, Acid Carbol. grs. 20, Ol. Sassafras grs. 20, Sp. Vini Gallici ozs. 3, Aquæ ozs. 3. M. Sig. 4 mins. every 2 hrs, internally. (b) Inhale from the bottle containing menthol. (c) Put 10 grs. of menthol in a tea-pot, add a cup of warm water, close the cover loosely, and inhale through the nose of tea-pot. (d) Use the inhaler. (e) Put the crystals in a paper envelope or in the folds of napkin and breathe over and through it. (f) Rub menthol moistened with water on the upper lip or moustache. (g) Use by atomization of a solution of 4 grs. of menthol to one ounce of warm water.

(C) *Hay Fever*.—In this disease menthol serves an excellent purpose as a substitute for cocaine. A 10 or 20 per cent. solution in olive or almond oil is applied to the sensitive area within the nose by means of a brush or atomizer. (W. Hill, M. D).

(D) *Bronchitis, Whooping-Cough and Asthma*.—In the chronic bronchitis of old age Nyes speaks favorably of inhalations of men-

thol, which he says, not only facilitate and rapidly diminish the expectoration, but also allay the cough and reduce the number of paroxysms. These inhalations have also been used with good effect in whooping cough. Finally, the same mode of application has proved useful in Jores' hands in relieving asthma. He reports a case for which all the usual and most of the unusual remedies had been tried unsuccessfully. Inhalations of a twenty per cent. solution in olive-oil were then tried, with most satisfactory results—the rattling râles disappeared almost immediately and the respiration soon became normal.

(E) *Laryngeal Phthisis*.—Rosenberg and others have claimed quite a large percentage of cures of laryngeal phthisis, by employing a 20 p. c. solution in olive oil as an injection for the larynx. In America, Potter, Knight, and others report very decided improvement after the use of menthol in this disease, but they have not observed any actual recoveries. In 25 cases of tubercular laryngitis it has proved to be a valuable agent; It was dissolved in fluid cosmoline in the proportion of one drachm to an ounce and applied in the form of a spray; or placing 20 or 30 grs. of menthol or one or two drachms of the oily solution in a steam draft inhaler or bronchitic kettle will also be effective.

(F.) *Phthisis Pulmonalis*.—It is used by Rosenberg in phthisis on account of the antiseptic powers of menthol, killing the tuberculous bacillus.

(2.) *Pharyngeal Catarrh*.—Here much benefit has been derived by employing sprays of menthol dissolved in oil or fluid vaseline in the strength of from one in twenty or thirty per cent. But the direct method of application by means of cotton answers best in pharynx, just as the spray and vapour are for the nose and larynx.

(3.) *Nasal Affections*.—For all forms of nasal disease causing obstruction to the natural breathway menthol inhaler has been prescribed to the extent of hundreds per annum. *By its use when the nasal discharge is excessive, it is checked; when deficient and thickened as in hypertrophied rhinitis, its healthy character is restored; and when arrested, inspissated and malodorous, as in atrophic rhinitis, fluidity is promoted and the foul smell corrected.* (Rosenberg).

(4.) *Germicide*.—In scarlet fever, diphtheria, typhoid fever, measles, erysipelas, &c., menthol is indicated as a germicide.

(a) *Diphtheria*.—Dr. Salisbury relates a case of a lady lately ill with diphtheria, where the mouth and fauces were filled with patches of membrane one inch in diameter. The menthol was used in connection with his ordinary treatment of quinine, one grain every hour with great relief to the symptoms and the entire disappearance of the membrane in 24 hrs. It may be given by atomization, 4 grs. to the ounce of warm water, or as a gargle according to the Salisbury formula as follows :—R. Menthol grs. 15, Acid Carbol. dr. 1, Ext. glycerriz. Fl. ozs. 2, Aquæ ozs. 14. M. Sig. To be used as a gargle every hour; this may be diluted with water. This formula is also effective for scarlatina and infusorial catarrh. Dr. Rosenburg has also employed menthol with advantage in the form of nasal spray, or brush application, in diphtheria.

(5.) *Cephalalgias*.—The most familiar employment of menthol is as a local application for the relief of pain, and menthol cones are prepared and sold in the shops for this purpose : The great objection to menthol has been the evanescence of its action, but by using this agent in the form of a plaster as recently invented, a sustained action from it will be obtained. Strip of this plaster applied on painful part maintains the anæsthetic action of menthol for days, giving relief in cases of megrim when applied to the brow ; or the following ointment will be of use :—R. Menthol part 1, Ol. Olivæ part $\frac{1}{2}$, Lanolini Parts $8\frac{1}{2}$. M. Ft. Ung. To be rubbed in cases of migraine. Its action is decidedly refreshing ; although it does not cure the headache, but seems to abate its intensity and even renders movement less distressing. It relieves and indeed dissipates the pain by its analgesic properties, so well known by its action when applied externally to the brow in cases of *tic douloureux*. But whatever may be the experience of others as regards this menthol plaster and cones, my experience as to these is little. Nevertheless I have been employing, long since, with almost specific effects in cases of headaches, the following application under the name of *Cephalodyne* :—R. Menthol drs. 2, Chloral Hydrate drs. 2, Camphor drs. 2, Ol. Cinnamomi mins. 40, Ol. Caryphylli mins. 40, Alcohol oz. 1. M. Sig. To be applied with a camel hair's brush on

forehead and temples in cases of nervous, bilious and congestive headaches. One or two applications usually give immediate relief. (b) Dr. C. L. Dana has internally employed menthol with satisfactory results in migraine or bilious headaches and anæmic headaches in doses of 15 to 60 grs. per day.

(6.) *Neuralgias*.—In these cases menthol acts as a *local anæsthetic* and is as prompt in its action as *Aconitine*, but is free from danger. Menthol cones and menthol (perforated) plasters are also familiar applications for the relief of pain in cases of neuralgias of various parts of the body, just as in cases of headaches, as *supra-orbital neuralgia*, *lumbago*, *sciatica*, *pleurodynia*, *myalgia*, *intercostal neuralgia*, &c. The relief obtained by such applications is usually temporary, but in some of the milder forms of facial neuralgia and so called rheumatic pains the remedy is of real service. For these neuralgic cases there are several different applications as follows:—(a) *The menthol plaster*, which is preferable to the cones in these cases. (b) *Menthiodol*, a combination of Menthol and Iodol in the form of cones or pencils is also strongly recommended. (c) *A liniment consisting of Menthol, Chloroform and Olive Oil*, is a useful application in *lumbago*, *neuralgia* and *sciatica*. (d) *Chaulmoogra Oil* combined with an equal weight of Menthol in Chloroform is very successful for *facial neuralgia* and *sciatica* when rubbed well into the parts; if pain is confined to the nerves of the face, then a piece of cotton saturated into this solution, and placed in the ear will also produce effect. (e) *My formula Cephalodyne*, also proves very effective as an application for *supra-orbital neuralgia*, *hemicrania* and *tic douloureux*. Practically Menthol is regarded as an efficient and cheap substitute for *Antipyrine*, especially for weak and anæmic persons to whom *Antipyrine* may not be a safe remedy. It is given combined with *Antipyrin* in doses of 5 grs. each in neuralgic cases.

(7.) Menthol, either alone, or better still, in combination with chloral and camphor in oil, is useful for relieving *gouty* and *rheumatic pains in the joints*.

(8.) *Dental Caries and Toothache*.—Menthol forms liquid combinations with Thymol, Phenol, Camphor, Chloral Hydrate and Croton-chloral and these fluids applied on cotton wool are useful for relieving the pains in decayed teeth. (a) For simple toothache from

caries, a small crystal of Menthol placed in hollow of the tooth, or a mixture of equal parts of Menthol and Chloral Hydrate, is effective.

(b) Or, if pain be excessive and intolérable, a piece of cotton dipped into an emulsion formed by mixing together Cocaine, Menthol and Sp. Chloroform, should be put into the painful tooth, with the result of giving a speedy and certain relief. (c) A combination of Chaulmoogra Oil, Menthol and Chloroform is also very effective (*Vide* Chaulmoogra Oil).

(9.) *Burns*.—One part of Menthol dissolved in 9 parts of Olive Oil and 10 parts of Aqua calcis is an effective, soothing and anti-suppurating application for burns.

(10.) *Ringworm*.—Ringworm of the scalp is said by Dr. Malcolm Morris to yield more promptly to applications of menthol than to any of the ordinary remedies employed for this purpose. One part of Menthol, four of Chloroform, and twelve of Olive Oil is the formula recommended in such cases.

(11.) *Scabies*.—In cases of *painful scabies or itch* affecting the delicate parts of the body and especially in cases of ladies and delicate children, where we want a soothing, pleasant and fragrant application, the following will be serviceable :—R. Menthol grs. 48, Bals. Peru. grs. 96, Ung. Zinci Oxidi ozs. 2, Lanoline ozs. 2. M. Ft. Ung.

(12.) *Furunculosis of the Ear*.—Another use of the remedy, as externally applied, is in the treatment of furunculosis, and more especially of furunculosis of the external auditory canal. Here the bactericidal properties of the drug, as well as its analgesic action, come into play. Dr. Cholewa has made trial of menthol in these cases and commends it most highly. He applies it by means of a pledget of cotton moistened with a twenty per cent. solution and inserted into the canal. The application is said to cause a little smarting at first, but this is soon succeeded by entire relief of pain and a speedy subsidence of the inflammatory process.

(13.) *Pruritus*.—Menthol locally applied acts as an antiphlogistic, relieving pains, heat, itching and swelling. For pruritus, these properties combined with the analgesic properties of the drug have been turned to good account. It is employed for this purpose in ointment, spirit, or liniment, in the strength of from one part to twenty to one part

in ten. A very good preparation for this purpose is that recommended by Elloy, of a solution of fifteen grains of menthol to one ounce of forty per cent. alcohol. The following formula is also effective for pruritus vulvæ, pudendi and general itchiness:—R. Menthol grs. 2 to 10, Sod. Biboratis grs. 5 to 10, Aquæ oz. 1. M. Sig. To be frequently applied. (*Vide* Ol. Menthæ Pip.).

(14.) *Exanthematous and skin Eruptions.*—Applications of menthol are useful for *itching exanthemata, in painful herpes, and in troublesome itching eruptions of urticaria or nettlerash, and painful surfaces.* (*Vide* Ol. Menthæ Pip.).

(15.) *Piles, Genital Irritations, &c.*—An ointment composed of Menthol dr. 1, simple cerate ozs. 2, Oil of Sweet Almonds oz $1\frac{1}{2}$, is found useful for painful piles and other rectal diseases. In spermatorrhœa it is very useful application to the genitals, to quiet the irritability.

Gastro-Intestinal Affections.—Menthol is indicated internally in the abnormalities in the solution and decomposition of food in stomach and intestines. From its analgesic and anæsthetic properties menthol is valuable in colic, vomiting of pregnancy, and diarrhœa from indigestion, and putrefactive changes in the stomach and intestines.

(16.) Menthol from its stimulant effect on the heart muscles is useful for *faintness, cardialgia, &c. both as inhalation and internally.*

(17.) *Antiphlogistic and antiseptic.*—Menthol controls superficial inflammation and from its analgesic properties a second application can be made in increasing strength without discomfort. It forms an useful, elegant and soothing antiseptic dressing for painful wounds and ulcers, when dissolved in olive oil. (*Vide* Ol. Menthæ Pip.)

Preparations and Doses.—Menthol, $\frac{1}{2}$ to 2 grs. or more; 15 to 60 grs. per day.

Linimentum Mentholi No. 1.					Linimentum Mentholi No. 2.				
R. Mentholi...	...	...	...	3	R. Mentholi...	...	...	...	1
Ol. Olivæ	...	...	...	30	Ol. Olivæ	...	...	...	3
Lanolini	...	...	...	30	Lanolini	...	...	...	6
					A semi-solid application for mucous membranes and applied with brush.				

Spirit Mentholi.

R. Mentholi...	...	...	1—3
Alcohol (40 p. c.)	...	...	50—60

Ung. Mentholi.

R. Mentholi	...	...	...	2½
Bals. of Peru	...	...	...	5
Lanolini	...	...	...	100

Pill Mentholi.—(*For internal use.*)

R. Menthol grs. 30, Sacch. Albi grs. 15, Gum. Arabic grs. 15, Aquæ Dest. q. s. Ft. pills. 20. First mix the menthol with sugar and moisten with rect. sp. or alcohol and rub until spirit evaporates, then add gum and mix well and make pills with the aid of little water; coat them with gelatine or silver leaf.

MERCURIC CYANIDE.

Characters.—Colourless or white, prismatic crystals, becoming dark coloured on exposure to light, odorless, having a bitter, metallic taste, and a neutral reaction. Soluble in 12·8 parts of water and in 15 parts of alcohol at 59° F; in 3 parts of boiling water and in 6 parts of boiling alcohol.

Properties and Uses.—Cyanide of Mercury possesses germicidal and antiseptic properties. It is useful as an hypod. injection in cases of syphilis (*Vide Hydrargyrum*, Page 341).

(1.) *Prof. Lister's New-Surgical Dressing.*—Sir Joseph Lister has, as a mature result of experiments extending over some years, introduced a new antiseptic dressing composed of mixed cyanide of mercury and zinc. He has found that the double cyanide, when deposited pure on the gauze easily dusted off when dry; but if mixed with starch water, it had the property of removing the starch from the solution, and forming with it a compound which firmly attached itself to fabric. It is insoluble in water, but dissolves in 3000 parts of serum. Professor Lister says that the new gauze is absolutely unirritating; the cyanide is not washed out by discharges, and it constitutes a lasting antiseptic. To prevent danger of irritation by the corrosive sublimate with which the dressing is moistened before use, he removes this in the first few layers by washing them in a 1 in 20 solution of carbolic acid.

He states that psoas abscesses, formerly considered incurable, will invariably yield to treatment with proper and unremitting attention if this dressing is used.

The mixed cyanide may also be used alone for application to hairy parts, forming a dressing with the hair itself. Prof. Lister first washes the hair with a 1 in 20 carbolic acid solution, makes a parting with a comb where the incision is required and after operation, rubs into the hair some cyanide powder moistened with corrosive sublimate solution 1, in 4,000.

In these investigations Prof. Lister's object has been to find a suitable substance, not an absolute germicide so much as one *inhibitory* of germ development, at the same time not liable to be washed out by the discharge, or to form with it an irritating solution, and this he has found in the mixed cyanides and new dressing.

(2.) *Diphtheria*.—Between 250 and 300 cases of diphtheria have been treated by Dr. Selldén a Swedish physician, with cyanide of mercury, and having only lost four of the worst out of the entire number, he considers the salt in question a “specific” for this terrible disease. His favourite formula is in the shape of a linctus, prepared with cyanide of mercury and tinct. aconite, 4 centigrammes of each, and honey, 100 grammes. A teaspoonful to be taken every hour, half-hour, or quarter, according to age and severity of the affection. A gargle should be given frequently—four or five times an hour in the worst cases—of aq. menth. pip., containing 1/10,000th part of the cyanide.

Dose.—1/16 to $\frac{1}{8}$ gr.

METHACETIN.

Characters.—A reddish coloured crystalline powder, odourless, with a bitter saline taste and soluble in cold water.

Physiological actions.—In half an hour after its administration there is a gradual fall of temperature, which reaches its maximum in 3 hours and lasts about 1 hour. The rise following this is relatively more rapid than the fall. A rigor may quite frequently introduce the rapid rise. The pulse also sinks with the temperature, but the beats become stronger and the pulse wave fuller.

Therapeutical actions.—It is a new anodyne and antipyretic agent, Dr. C. Seidler has experimented with it as an *antipyretic in tuberculosis and febrile conditions and in acute rheumatism as an antipyretic and antineuralgic*. In moderate fever, doses of $\frac{1}{2}$ to $\frac{3}{4}$ grain were sufficient to reduce the temperature to the normal; with higher temperature larger doses ($\frac{3}{4}$ to 1 gr.) were necessary. Its action was prompt on account of its easy solubility. (*Vide* physiological action.) Dr. Heinz, of Breslau, also experimented with methacetin as an antipyretic. In typhus abdominalis the remedy reduced the temperature about 3°C , the fall being often accompanied by profuse sweating the rise took place gradually; rigors were never observed. A longer period of apyrexia may be maintained by repeating the remedy in smaller doses when the temperature begins to ascend. Dose of 15 grs. caused no serious disagreeable symptoms; the temperature however sinking somewhat under the normal. It was also used in articular rheumatism, migraine, and in influenza. The dose as an anodyne is double that as an antipyretic. Compared with phenacetin the dose is one-half as large.

Dose.—3 to 6 grs.

METHYLAL.



Syn.—*Dimethyl Ether of Methylene.*

Characters.—Methylal, prepared by distilling methylic alcohol with sulphuric ether in the presence of peroxide of manganese, is a colourless mobile liquid, with a fragrant odour resembling a mixture of chloroform and acetic ether, and pungent, slightly bitter taste; sp. gr. 0.855. When impure, the taste is often bitter and unpleasant. Slightly acid in reaction; is soluble in water and alcohol; when evaporated on the skin, produces a cold sensation.

Physiological actions.—Methylal depresses excitability of the brain (motor area) to a certain degree. It inhibits reflex action only when administered in large doses. It accelerates the cardiac action through the stimulation of the central cardio-accelerating apparatus. It at first raises and subsequently somewhat depresses the arterial tension which is dependent upon its first stimulating and then inhibiting

the vaso-motor centres. It causes slower and deeper respirations and subsequently induces a tendency to sleep. It does not manifest any influence on the bodily temperature.

Therapeutical actions.—Methylal, which was first brought to light by Malaguti in 1839, possesses anæsthetic, antispasmodic and hypnotic properties. Its action as a medicine lies between alcohol and anhydrous ether.

(1.) *Hypnotic.*—Dr. Leech places it fifth in order of potency. In his hands it has failed more frequently than any other. In healthy subjects it has failed to produce sleep in the day time even in large doses. Dr. T. C. Charles has on the other hand found it to act efficiently in a few cases of *insomnia*. It is quickly eliminated, and never exerts deferred action. Patients get accustomed to it, and then larger doses are required to produce the hypnotic effects.

(2.) *Delirium Tremens.*—It is an effective remedy in delirium tremens; in 21 cases, 15 mins. of 10 per cent. aqueous solution proved useful in procuring sleep; in other cases, the effect was produced after repetition of the dose every 2 or 3 hours. It is also recommended by Krafft-Ewing in delirium tremens.

(3.) *Dementia.*—Mairet and Combemale recommend it in doses of 75 mins. to 120 mins. in dementia.

(4.) *Anæsthesia.*—As it mixes well with alcohol and ether, it may be given with either of these agents, for the purpose of producing general anæsthesia in place of chloroform.

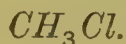
(5.) *Antispasmodic.*—It is an effective antispasmodic and has been beneficially given in combination with Amyl Nitrite for the relief of colic, asthma, angina pectoris, tetanus and nervous stomachic pains.

(6.)—Methylal, employed *topically as an anæsthetic*, is of undoubted value, and for this purpose an ointment or limiment in the proportion of 1 in 6 of almond or olive oil, or with simple cerate, is especially useful.

(7.)—*It is an antidote to Strychnine.*

Doses.—15 to 30 mins. in syrup and water; full hypnotic dose. dr. 1; 1 to 4 drs. for producing anæsthesia.

METHYL CHLORIDE.



Characters.—Although a gas at the ordinary temperature of the air, chloride of methyl under the combined influence of cold and pressure is easily condensed to a colourless mobile fragrant smelling liquid, which, by its rapid evaporation produces an intense degree of cold.

Properties and Uses.—A few drops poured upon the skin whitens it immediately and destroys all sensation for the time being. It is, therefore, one of the most rapid and effective fluids known for the production of local anæsthesia. It is most conveniently applied by means of an ingenious little appliance of French origin. It consists of a small metallic cylinder cased in India-rubber, filled with condensed chloride of methyl. A screw-valve of peculiar construction enables the operator to direct a fine jet or spray upon the intended part, when local anæsthesia is quickly produced.

MISTLETOE—(*English.*)

VISCUM ALBUM.

Part used.—*The Leaves.* *N. O.*—*Loranthaceæ.*

Habitat.—*Hotter parts of Europe.*

Characters.—A shrubby plant parasitic on many trees, as Willows, Thorns, Lime, Elms, Oaks, Firs, and especially the Apple tree. Leaves, opposite, exstipulate and greenish; flowers, small, pallid, dioecious, &c., with sessile stamens or nearly so. Fruit, succulent, containing a viscid pulp, which is sometimes employed for making birdlime.

Therapeutical properties.—It possesses antispasmodic, narcotic, tonic, and oxytotic properties. It is especially recommended in *incompetency and tumultuous cardiac action*; in such cases drs. 4 of the tincture was prescribed every 4 hours with the very best results. *It is said by Dr. Murrell to be an excellent substitute for digitalis.*

The leaves of *Viscum*, *Monoicum*, parasitic on *Strychnos* *Nux Vomica*, were found in India to possess similar properties to this plant and to be useful in like cases in medicine (Prof. Bentley).

Preps. and Doses.—Tr. (1 to 8 Pf. Sp.), $\frac{1}{2}$ to 4 fl. drs.

Decoct. (1 to 10), $\frac{1}{2}$ to 2 ozs.

MISTLETOE—(American.)

PHORADENDRON FLAVESCENS, Nutt. VISCUM. FLAVESCENS, Pursh.

Part used.—The Leaves.

N. O.—Loranthaceæ.

Habitat.—Southern United States.

Therapeutical properties.—It has narcotic, antispasmodic, tonic and oxytotic properties. It is useful in epilepsy, insanity, paralysis, and other nervous diseases. *It possesses marked oxytotic properties.* Dr. Long claims for it many advantages as compared with ergot, as follows—(1.) *It acts more promptly and surely.* (2.) *It produces intermittent contractions, instead of tonic—hence may be used in any stage of labour, or in primiparæ, where ergot is not admissible.* (3.) It can always be obtained fresh and does not deteriorate by keeping. It has been used with success in many cases of *menorrhagia, hemorrhage from the uterus and post-partem hemorrhage.*

Preparations and Doses.—Leaves, 10 to 60 grs.

Fl. Ext. 15 to 60 mins. repeated every
20 minutes when given in labour.

Pressed Herb ; infusion, 1 oz. to the pint ; dose, $\frac{1}{2}$ to 2 fl. ozs.

MULLEIN.

VERBASCUM THAPSUS.

Syn.—Great Mullein.

N. O.—Scrophulariaceæ.

Part used.—The Leaves.

Habitat.—Europe and United States.

Therapeutical properties.—The leaves possess anodyne, antispasmodic, demulcent, diuretic, emollient, mucilaginous and slightly narcotic properties. They are useful in inflammation, catarrhs, diarrhœa and irritation of the urinary organs. The leaves (dried) are smoked for asthma.

They have recently been used extensively in the treatment of phthisis and certain forms of asthma. One ounce of dried leaves is added to a pint of milk which is boiled and strained—this is to be taken during the day—one half in the morning and the remaining half at night. The leaves may also be smoked and the smoke inhaled in cases of asthma in the form of cigarette. From the experi-

ments of Dr. Quinlain in the hospital the following conclusions are drawn: 1. In the earlier and pretubercular stage of phthisis, mullein has a weight increasing and curative powers greater than that of Cod Liver Oil and equal to that of Russian Koumiss. 2. In cases where tubercles are formed and cavities exist, it greatly relieves cough. 3. Phthisical diarrhœa is completely obviated by the mullein. 4. It has no powerful effect on the night-sweats of phthisis, which should be combated by atropine.

Preparations and Doses.—Leaves. \mathfrak{I} to 4 drs.

Fl. Ext. of the Leaves and Flowers,
1 to 4 fl. drs.

MYRISTICA FRAGRANS, —(*Houtt.*).

MYRISTICA OFFICINALIS, —(*Linn.*)

NUTMEGS.

The pharmacology of Nutmegs being known to all, I simply describe its physiological actions as made known from recent experiments, and also some of its recent therapeutical applications.

Physiological actions.—M. M. Cadèac and Albin Meunier, who have made systemic observations both on animals and on human beings, found that doses of 20 centigrammes, or about one-third of the quantity of essence yielded by an average nutmeg, when injected into the venous circulation of a dog weighing fifteen kilogrammes produce almost immediately symptoms of great fatigue, drowsiness, and torpor, so that the animal can be beaten without its attempting to move; sometimes also vomiting and involuntary defecation occurs. When a dose of about four times this amount has been given, there are some signs of excitement, and the animal becomes hypersensitive to light and noise; but its movements, though strong, are stiff, and there is great want of co-ordination. After about half an hour prostration comes on, and it slinks away into corner. With very large doses—about ten times as large as the first mentioned there is hyperæsthesia of the sensorium, with muscular rigidity, the movements being characterized by great want of co-ordination; convulsions also occur, and regular voluntary move-

ments only become possible after about half an hour, when the animal is completely exhausted. A dose of 50 centigrammes will kill a dog weighing six kilogrammes in an hour and a half. A dose of 65 centigrammes (about 10 grs.), or even double that quantity, in the human subject produces no general excitement, but merely a slight headache, at first supraorbital, then frontal, and some diminution of cerebral and muscular activity. It produces gastric and intestinal contraction; but it has little effect on the circulation, and, such as it has, is of a sedative or depressing character.

Therapeutical Properties.—Nutmegs in small doses are digestive, astringent tonic, stimulant and anodyne; they are also credited with aphrodisiac properties. In large doses, they are intoxicating or narcotic. Recently it has come forward as a therapeutic agent in the following diseases:—

(1.) *Diarrhœa and Dysentery.*—It is found beneficial in the treatment of summer diarrhœa, many cases yielding to the administration of half a drachm of powdered nutmeg in milk. A pill composed of nutmeg, opium and ext. cannabis, is highly useful in dysentery, relieving both pain, and discharge of mucus and blood.

(2.) *Delirium Tremens and Insomnia.*—It can be administered in delirium tremens with safety and benefit when any other sedative would be hurtful. Insomnia can be effectively relieved by it when opium has failed and chloral is contra-indicated.

(3.) *Hemorrhoids.*—For itching and irritable hemorrhoids an ointment composed of powdered Nutmegs drs. 2, Acid Tannic dr. 1, and Adepis oz. 1, is an excellent application (Dr. Shoemaker.)

(4.) *Cholera Cramps.*—An ordinary nutmeg pulverized and mixed with $\frac{1}{4}$ sheer of sweet oil and boiled till it is uniformly mixed, and preserved in a stoppered bottle, has a magical effect in relieving the painful cramps in cholera when rubbed on the affected parts.

(5.) Externally, powdered nutmegs applied in the form of a paste with water or spirit, is useful for headache.

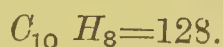
(6.) *Toxicolog.*—When taken in large or poisonous doses, nutmegs produce a profound coma lasting for hours. Cullet has reported a case in which a man who had swallowed half an ounce of powdered

nutmeg became sleepy and stupid. Savager has had a case where a child who had chewed five large nutmegs was sent into a deep sleep, with relaxation of the muscles. In such cases first give an emetic of Mustard and warm water ; then a dose of castor-oil and follow it by repeated doses of Bromide of Potassium and Tr. Valer. Ammon.

Doses.—2 to 10 grs. for children.

10 to 60 grs. for adult.

NAPHTHALIN.



Characters.—It is an hydrocarbon obtained in the manufacture of gas. When pure, it occurs in pearly white crystalline plates or shining scales, with a Sp. Gr. 1.1 ; melts at 79.2°C, evaporates slowly in all temperatures, is inflammable, and sublimates at 150°C. It is insoluble in water, alkalies and weak acids ; soluble in ether at ordinary temperature, also in hot alcohol concentrated sulphuric acid, and in various oils and fats. It has a penetrating odour, and a taste, like coal tar.

Physiological actions.—Naphthalin is quite harmless when used on man or higher mammalia, but in an atmosphere of Naphthalin, all animal and vegetable micro-organisms are destroyed. When given internally it is only absorbed in very small quantities ; it appears in the urine, when so administered, as naphthalin, and can be separated from that and other secretions by distillation, as it is carried over by the watery vapour and settles down in the crystalline form as the vapour is condensed. Dr. Morgan Dockrell has lately drawn attention to a new form of *drunkenness*, which is experienced by the employes in the *guttapercha* works, where naphthalin is used to clean out the large coppers. *The sensations produced by this drunkenness, are said to be so delicious, as to surpass those from opium or the haschish.*

Therapeutical actions.—Naphthalin has powerful antiseptic, anti-parasitic and disinfectant properties. It is as powerful, and antiseptic and antibacteric as Iodoform, and is available for all the purposes, to which Iodoform has been applied, and as yet no constitutional effects have been observed to follow its use locally. It is quite insoluble

in wound secretions, and even, when given internally, is only absorbed in very small quantities. (*Vide* Physiological actions.) Besides the dressing of wounds, naphthalin has been used for the *disinfection of sick rooms and closets, as a parasiticide in certain skin diseases, as an inhalation in infectious diseases, involving the respiratory organs, such as Diphtheria, and as an antiseptic and antifermentative agent in disorders of the intestinal canal and urinary organs.* A short practical description of these uses can be given as follows :—

(1.) *Antiseptic Surgery.*—Fischer first employed Naphthalin dressings at Strasburg. From experiments and observations, he came to the conclusion that it is an admirable substitute for iodoform. Its application causes a slight transitory sensation of heat, but no pain, whilst neither wounded surfaces nor the healthy structures around them are in the least irritated. The advantages, therefore, gained by its use as a dressing, are simplicity, innoxiousness and cheapness. The disadvantages are its insolubility, penetrating odour and production of profuse secretion on large wounds. Owing to its insolubility, if there is much discharge, it is apt to form a crust on the surface of the granulations. When the crystalline form is used, the discharges escape freely. Naphthaline is especially suited *as an antiseptic for patients with a sensitive skin (i.e., all persons susceptible to Carbolic Acid), in children (in combination); in wounds; in deep cavities where secretions easily decompose; after resections; removal of tumours, &c., and in wounds attacked by erysipelas.* Dr. Djonkenow particularly recommends naphthalin dressing for surgeons, who like himself, have to treat patients in hospitals deficient in funds and with an insufficient supply of nurses. Kaposi states that care should be observed in its local application to avoid surfaces denuded of epithelium, and never to apply it to the entire body; with these precautions it is entirely without danger.

(2.) *Disinfectant and Deodorant.*—Naphthalin is also most useful in every department of hospital hygiene and sick room requisite. It is only necessary to sprinkle some naphthalin on the floor, or in a vessel of water (to be afterwards raised to boiling) when it will permeate the room and condense on the walls, its vapour being, at the same time, destructive to all insects and micro-organisms. It can be beneficially employed for *disinfecting the stools of patients suffering from typhoid*

fever, cholera, &c., also for the disinfection of closets and urinals of persons suffering from infectious diseases and for general disinfectant purposes.

(3.) *Parasiticide*.—In an atmosphere of naphthalin, all animal and vegetable micro-organisms are destroyed. By its presence moths and other insect lives infesting the animals and silk clothes are kept away.

(4.) *Parasitic and other Skin Diseases*.—(a.) In *Scabies*, an ointment composed of Naphthalin grs. 30, Sulph. Subl. drs. 2, Bals. Peru mins. 25, Vaseline oz 1, is useful ; or, one application of a mixture of Naphthalin, Chalk, Green Soap, and Lard is usually sufficient for a cure ; or, even a 10 to 20 per cent solution in oil also acts as a *parasiticide*. (b.) In dry scaly stage of *Eczema* an ointment made of 10 to 30 grs. of Naphthalin with 1 oz. of Ung. Zinci Oxidi, is useful. (c.) In various forms of *Acne* good results follow the use of Naphthalin. (d.) Naphthalin is useful in *relieving the irritation of the integument from bites of lice, bed bugs, dan fleas, mosquitoes &c.*

(5.) *Pediculi* are quickly exterminated by 10 per cent solution in olive oil.

(6.) *Gastro-Intestinal Diseases*.—Naphthalin is indicated in *catarrhal, typhoid and phthisical diarrhœa*. For *dyspeptic diarrhœa gastro-intestinal diseases of children and chronic intestinal catarrh and in cases of acute diarrhœa if fermentation is going on*, the following mixture is very serviceable :—R. Naphthalin grs. 5 to 15, Mucil. Acaciæ drs. 10, Ol. Menth. Pip. min. 1, Inf. Chamomili, drs. 10. M. A dessertspoonful every 2 hours. In cases of great prostration, add 20 mins. of alcohol ; if diarrhœa be profuse, add tr. opii.

It was used in 140 cases of acute and chronic *dysentery and diarrhœa, acute and chronic catarrh of intestines in children and adults*. The drug was given in doses of 1 to 5 grs. five times a day either alone or simultaneously with an emulsion of castor oil and opium. For children aged 2 years one grain was given. It is besides very useful in *chronic gastric catarrh*. It may also be given internally to lessen the *fetor of excretions*.

(7.) *Anthelmintic*.—It is an useful remedy internally for the expulsion of *tænia* and *ascarides* in both children and adults. Dr.

Coriander of Samarkand also recommends it as a valuable and economical remedy, especially in country and military practice. He gives children of from one to three years at age 2 or 3 grs. twice a day ; in the case of adults, he gives them 20 to 80 grs. a day in powder with sugar.

(8.) *Urinary Diseases.*—In doses of 10 to 12 grs. six times a day, it is useful in *cystitis and other urinary disorders with fetid urine*. It is suitable as an *antiseptic in suppurative pyelitis or nephritis*. For *gonorrhœa*, bougies made with cacao butter is useful.

(9.) Naphthalin is an useful adjuvant to lotions for conjunctivitis, otorrhœa, and in dentrifices. (*Vide* B. Naphthol.)

Preparations and Doses.—Besides the powder, the following preparations have been employed.

(1.) ETHEREAL SOLUTION, 10 per cent—For Injections in wounds, suppurating cavities, &c.

(2.) NAPHTHALIN BANDAGES.—Made by sprinkling or rubbing the powder into muslin, and then moistening with water.

(3.) NAPHTHALIN GAUZE.—It is made by dipping in an ethereal solution of 1 part to 4 of Ether and 12 of Alcohol.

(4.) NAPHTHALIN JUTE.—1 Kilo. of compressed jute steeped in a solution of 100 grams of Naphthalin in 400 grams each of ether and Alcohol, and then dried, makes a beautiful, silky, white absorbent dressing.

(5.) NAPHTHALIN WOOL.—It is prepared by first boiling the wool in soap-lye, and then steeping it in an ethereal solution of Naphthalin. Anschutz and Djankenow prefer one part of Naphthalin to four of Alcohol and four of Sulphuric ether.

(6.) Naphthalin, 2 to 10 grs. or more internally.

NAPHTHOL.

Vide Beta—Naphthol.

NAPHALOL.

Syn.—Naphthol-Salol.

Characters.—An ether-like compound, similar to Salol but containing instead of Phenol, *B*-Naphthol which is comparatively non-poisonous, odourless and tasteless; insoluble in water.

Properties and Uses.—It is indicated in various forms of cystitis, chiefly in gonorrhœal cystitis, with alkaline decomposition of the urine. Under its influence the urine becomes clear and acid, with relief to the pains experienced by the patient during micturition. It is also recommended in acute rheumatism and seems to be well borne and acts better than Salol.

Dose.—3 to 5 grs.

NAREGAMIA ALATA.

THE GOANESE IPECACUANHA.

Syn.—*Nela naregam* (Malay); *Tinapana*, *Kápúr bhendi*, *Pitwel* (Mah.); *Trifolio* (Goa.)

Parts employed.—*The Root and Stem.*

N. O.—*Meliaceæ* *Habitat*—*India.*

Characters.—A small glabrous and shining undershrub, about a foot in height and with somewhat decumbent branches. Leaves trifoliate; leaflets sessile, cuneate-obovate, quite entire or obtusely lobed; common petioles winged. Flowers 1 to 1½ inch long, quite white, longer than the peduncles. The stems are of a dirty-green, with the bark more firmly adherent. The root stock is contorted and warty and with the roots is pale brown in colour; the mealy suberous layer may easily be removed by rubbing. On transverse section, the root presents a brown outer layer of the bark with a light coloured interior and a yellowish wood. The powder is light-brown; it has a peculiar aromatic and pungent odor, and a slightly bitter and nauseous taste.

Chemical Composition.—The activity of the drug resides in the cortical portion, but as this forms one-third, and the woody materials

two-thirds of the whole, it differs from the true ipecacuanha. It contains an alkaloid, *Narigamine*, as an amorphous slightly coloured residue of a brittle consistence. It forms crystalline salts with mineral acids, and thus differs from *emetine*, and also differs from it in not giving any color with chlorinated lime and acetic acid. The bark of root also contains wax, gum, asparagine, starch, but no tannin.

Therapeutical properties.—It possesses diaphoretic, expectorant and emetic properties. The natives on the Malabar Coast where the plant is indigenous employ it as an emetic, and as a remedy in bilious conditions, rheumatism, digestive troubles, dysentery and bronchial catarrh. It is an excellent emetic in doses of from 12 to 20 grs. and has been extensively employed by the natives for that purpose. Concerning its use in dysentery and as an expectorant the following is reported by Mr. Hooper* as the result of clinical experiments conducted with the drug by Dr. Bidie of the Monegar Choultry Hospital, Madras :

“The powder was tried in two cases of dysentery. The first patient had a very severe attack of the disease, and had recovered from a similar attack only a month before, and was in consequence in a very weak and emaciated state. After three doses, all traces of blood in his motion disappeared. The drug was administered in doses of 20 grains, preceded by 15 minims of tincture of opium. The second patient also recovered rapidly, but the disease was not so severe as in the first case. As an emetic its effects were exactly similar to the official drug, 20 grains acting as an effectual emetic in an adult. It was also tried in small doses as an expectorant in catarrhal affections with good results, and was effectual in the treatment of children suffering from bronchitis.”

Preparations and Doses.—Powdered Root, 10 to 20 grs. as an emetic.

Tr. (1 to 4 Pf. Sp.), 5 to 20 mins. as an alterative and expectorant; 15 to 40 mins. as an emetic.

* D. Hooper, F.C.S., in Pharm Jour and Trans, October 15th, 1887.

NITRO-GLYCERINE.

Syn.—*Trinitrine* ; *Glonoin* ; *Trinitrate of Glycerol*.

Characters.—Nitro-Glycerine, obtained by the action of Nitric and Sulphuric Acids on Glycerine, is a dense, oily, highly explosive liquid ; slightly soluble in water, soluble in 15 parts of rect. sp., freely soluble in ether and oils.

Physiological actions.—Nitro-Glycerine, in common with the other nitrites, has the power of dilating the arterioles and lowering the blood tension, due to its action on the terminal filaments of the vaso-motor nerves. In consequence there is an increased supply of blood to the brain, with an accelerated action of the heart, &c. In full doses, it causes flushing of the face, severe headache, fulness of the head, singing in the ears, flashes before the eyes, and all the symptoms of an increased supply of blood to the brain. An excessive dose may cause languor, pain and irritability of the stomach, and occasionally, according to Dr. Murrell, even temporary unconsciousness. (*Vide* Amyl Nitrite.)

Therapeutical actions.—*Nitro-Glycerine is the best, most speedy and efficient remedy in our hands in cases of emergency. Like the nitrite of amyl and nitrite of sodium, it is indicated in all conditions where symptoms are attributed to, or associated with, increased arterial tension. Nitro-Glycerine and nitrite of amyl act rapidly and their result is not so lasting, while that of sodium nitrite is slow but permanent.* Besides nitro-glycerine, if not cautiously given in medicinal doses, causes throbbing in the head, pain and giddiness, &c. *Nitro-glycerine should be preferred to alcohol in every case of emergency, because not only does it act in the same way as alcohol, but it acts with greater rapidity, can be given during unconsciousness, is almost tasteless in water, one drop being equal to nearly one ounce of brandy and with many patients it cannot create or arouse a slumbering appetite for the drug. With these preliminary remarks I pass on to its uses in the following class of cases. :—*

(1.) *Angina Pectoris.*—It is an effectual and speedy remedy for the relief of cases of angina pectoris. To a case one drop of 1 p. c. solution was given, which stopped all pain and difficult

breathing in 10 or 15 minutes; then one drop was given *ter die* for a week, and the patient was free for two years.

(2.) *Cardiac Affections (Organic).*—When the cardiac walls are weakened by myocarditis or by fatty degeneration, any cause suddenly increasing the vascular tension, may arrest the movements of the heart. Great embarrassment of breathing, pulmonary congestion, œdema and generally dropsy may result from the weakness of the heart's walls and these conditions are enhanced by a condition of elevated tension of the arteries. In such cases Nitro-Glycerine does much good than Digitalis, which on the other hand is more efficient when the vascular tension is low. (*Vide Iodides Page 381.*)

(2.) *Spasmodic Asthma.*—These cases are quickly relieved by one-drop doses to the great surprise to the patient. You will be called upon some morning between one and four o'clock to see a man apparently breathing his last. You will know from his *barrel shaped chest* that he is an *emphysematous subject* and you will assume that he is suffering from *spasmodic asthma*. Here contraction of the bronchial tubes as well as the tubes and air vesicles, fill up with mucus during these attacks; but apparently this is due to increased arterial tension, there is increased arterial tension of muscular layer of blood vessels, also in walls of the tubes and hence arrest of normal function of respiration. Here one drop of a one per cent. solution given every five minutes relieves this undue tension by its action on the terminal filaments of the vaso-motor nerves. The normal contraction of the heart then causes a fresh supply of blood to be sent to these vessels, arterioles and capillaries, and a patient unable to speak, after being few minutes under treatment, is able to speak aloud.

(3.) *Headaches.*—(a) *Headache in anæmia* is quickly relieved by the remedy. (b) One drop of one p. c. solution given every few minutes is also useful in form of headache which produces a *band-like feeling about the head*. (c) *Also in helmet-like headache of Charcot.* These troubles are due to vascular tension traceable directly or indirectly to liver and nitro-glycerine has in the way effect upon the liver. The tension of that organ is relieved, the flow of bile is augmented and within 24 hrs. there are decided

purgative effects. (d) One of the form of Migraine or sick-head-ache is that characterized by contraction of the arterioles and consequent pallor of the face and lips and this is speedily relieved by nitroglycerine.

(4.) *Shock, Faintness.*—It is useful in cases of faintness and nausea and in cases of shock occurring during surgical operations. A case is reported of a man who having received injury to his two fingers, who was being dressed for his wounds, suddenly became deadly pale, dizzy and sick at the stomach. A drop of nitroglycerine solution was placed upon his tongue, which sent the blood rushing back to his brain, and permitted to finish the dressing.

(5.) *Prostration.*—*Rapid prostration in typhoid fever, with low mutterings and failure of pulse.* One-fourth drop of one per cent. solution given every 15 minutes in water for two hours, caused the pulse to become full and regular, delirium subsided, &c.

(6.) *Hysteric Aphonia.*—A man aged 40, and a woman of 23, were suddenly attacked with rigidity of every muscle, were unable to speak or move; with respirations 60 per minute, short and superficial; pulse 40 and almost imperceptible; a terrible feeling of pain and pressure over the heart; they usually remained in this condition for several hours. One drop of one per cent. solution was administered at once and in fifteen minutes the woman was all right.

(7.) *Sea-Sickness.*—Cases of Sea-Sickness characterized by pallor of the face and lips, from contraction of the arterioles, are speedily relieved by nitro-glycerine. A physician gives an account of a successful trial upon himself of 1/100 of a gr. of nitro-glycerine for the relief of sea-sickness. Two lads, who were similarly suffering experienced relief from 1/300 of a grain each.

(8.) *Uræmic Coma.*—Here one drop every fifteen minutes for an hour was given. It was given not to strengthen the heart but to relieve the congested kidneys by opening wider the arterioles throughout the body and thus enlarged the reservoir outside the kidneys.

(9.) *Renal Diseases.*—In several cases of *chronic inflammation of the kidneys*, benefit results from the use of nitro-glycerine.

Similarly the cases of *contracted kidneys* are benefited by nitro-glycerine which relieves the tension of vessels of the kidneys.

(10.) *Death beds.*—When we are called to persons suddenly stricken with death, but if the cause before us is not death, *but is the last faint throbbing of the heart, too feeble to be noticed even by the trained ears, then nitro-glycerine in the rapidity of its action, might cause an over-burdened heart to suddenly leap into new life.*

(11.) *Drowning.*—Cases are frequently reported where persons apparently dead from drowning are brought to consciousness again after hours spent over them in applying heat to the body and forced respirations.

(12.) *Asphyxia.*—A women 47 years old, was *asphyxiated by illuminating gas*. She had received over six hours's dose of it in a small room, and life was as nearly extinct as possible without being entirely gone. 1/50 gr. ($\frac{1}{2}$ min. of 1 p. c. solution) of nitro-glycerine was given hypodermically in few drops of water, and it acted like a charm, as the effect was instantaneously perceptible and she recovered by evening after a second dose at an interval of 3 hrs; this reliable treatment by nitro-glycerine for *asphyxiation by illuminating gas* has been confirmed by several other medical men.

(13.) *Neuralgias.*—Cases of neuralgias associated with spasm of the arterioles are also benefited-

(14.) *Dysmenorrhœa.*—There is a form of dysmenorrhœa in which the same condition of vascular system exists, viz., spasms and contraction of the arterioles, and in this nitro-glycerine gives relief.

(15.) *Epilepsy.*—Two drops of a one per cent. solution of nitro-glycerine given just at the moment of feeling the aura is useful in cutting short the onset. Here amyl nitrite by inhalation is better suited than nitro-glycerine, which may be subsequently administered to produce permanent effects.

(16.) Lastly, nitro-glycerine is said also to *relieve morphine craving*.

(17.) *Precautions.*—As nitro-glycerine causes an increased supply of blood to the brain, care should be taken in administering

the remedy to the aged, as the sudden expansion of the cerebral vessels may cause rupture of their weakened calcareous walls.

(18.) *Toxicology.*—In case of poisonous doses of nitro-glycerine having been taken, we should select as antidotes such drugs as act in an opposite manner upon the vaso-motor nerves to that of nitro-glycerine; our object should be to cause contraction of the arterioles. For this purpose, *Strychnine, Ergotine, and Atropine* are indicated; these antidotes should be given *hypodermically* in cases of poisoning as they diffuse much more slowly than nitro-glycerine. *The relief to the agonizing headache produced by over doses can be given by pressing the carotids at the neck.*

Preparations and Doses.—Solutio Nitro-Glycerini, 1 per cent. (1 min. of Nitro-glycerine dissolved in 100 mins. of alcohol), 1 min. gradually increased until some physiological action occurs. Give a drop ter die, and increase by one drop every day, until the desired effect is produced; or until 5 mins or at most 10 mins. are taken in 24 hours.

Injectio Nitroglycerini Hypod.—(1/240 gr. in 1 min.), 1 to 4 mins.

Tabellæ Nitroglycerini, B. P. (1/100 gr. in each), 1 every 3 or 4 hrs. or in emergent cases 1 every fifteen minutes till effect is produced. A convenient and portable form.

NITRO-GLYCERINE COMP. TABLOIDS.

Syn.—*Tri-Nitrine Comp. Tabloids (Burroughs).*

This new name of Tri-Nitrine has been given to Nitro-Glycerine, for the reason that its occurrence in prescriptions is less likely to alarm the susceptibilities of delicate, nervous, or highly strung patients than the more commonly employed term. These compressed tabloids are made with sugar of milk, which is admirable adopted for the purpose, and dissolves much more rapidly than any of the ordinarily employed excipients. Besides they are very convenient for administration and are portable.

Composition.—Each tabloid contains Nitro-Glycerine 1/100 gr., Nitrite of Amyl $\frac{1}{4}$ gr., Capsicum 1/50 gr., Menthol 1/50 gr.

Dose.—One tabloid every 3 hrs., and also immediately before each attack of Angina Pectoris. The dose may be gradually increased till its full physiological action is produced.

NUX VOMICA AND STRYCHNIA.

Practical Therapeutical Uses.—(1.) Gastro-Intestinal Affections. In these affections small doses of nux vomica are of service, as they act as a tonic to the muscular system; while full or large doses are on the other hand injurious, as they irritate the stomach and cause spasms, and act very much like quinine in checking the action of the liver and causing disturbance of the system. (a). *Dyspepsia*: Nux vomica is of eminent service in *atonic dyspepsia* with or without depression of spirits, hypochondriasis, headache, weight on the head and other nervous phenomena. It is in these cases that increasing doses are of value. This effect is due to its systemic effect, whereby reflex excitability of the spinal cord and vaso-motor centres is increased. (b.) In the dyspeptic symptoms belonging to the disease of the heart, bronchitis, cirrhosis of the liver, the good effects of nux vomica are due to its tonic effect on blood vessels. (c.) In gastric catarrh small doses of nux vomica are useful. (d.) *constipation*: Tr. of nux. vom. taken in doses of one or two minims, fasting, every morning, is very useful in the cure of *chronic constipation of the bowels*. (e.) *Vomiting*: 10 or 15 drops of tr. of nux vom. in a wineglassful of water, and of this a teaspoonful taken every 10 minutes for the first hour and then hourly thereafter is very useful in *checking bilious vomiting*; the stimulating effects are not only felt upon the terminal filaments of the pneumogastric, but this action is also carried to the liver and extends to the entire nervous system, and so long as no astringents are given to arrest peristalsis, the bile deposited in the intestines is carried downwards, and as a consequence, the vomiting ceases.

(2.) Nux Vomica is indicated in the *cough of emphysema and chronic bronchitis* due to its action as a respiratory stimulant.

(3.) *Insomnia.*—Tr. of Nux. Vom. in doses of 5-10 mins., or Strychnia in doses of 1, or 3 granules of 1/200 gr. each, given at bedtime and repeated within one or two hours, if patient happens to

awake, is useful in sleeplessness produced by over fatigue or over-worry of mind. Here strychnia changes the overworked or over-fatigued brain to a state of simple fatigue or worry and thus produces sleep by stimulation of brain. For this Dr. shoemaker says: "There are times when persons become so tired that they are unable to sleep, but small doses of nux. vom. are sufficient to raise the condition so that sleep will be a natural result. Here 5 drops of the fl. ext. placed in a glass of water and a teaspoonful given every 5 minutes for an hour, the patient gets sleep."

(4.) *A Cardiac Stimulant in Low Vitality in Typhoid Fever and other Diseases.*—This above method of administering nux vom. is invaluable in typhoid fever, especially in those cases where vitality is at a low ebb and where disease assumes a lingering character. A dose of this solution (5 drops of fl. ext. in a glass of water) may be given every hour except at night, when the intervals may be lengthened to two hours. In case there is danger of heart failure it is best to combine it with Strophanthus. In this manner, we are able to keep pulse from increasing in rapidity during the day, but at night with the discontinuance of the drug it would mount up from 86 at night to 100 in the morning. Frequency of the pulse in the later stages of this disease and in pneumonia and lingering affections means weakness of the heart and at times it requires all our resources to keep the organ up to its work.

(5.) Excellent results will be obtained by the persevering use of very small doses ($1/50$ gr.) of strychnine in promoting the restoration of exhausted nerve function; while larger doses do but add to irritation and eventually increase the exhaustion.

(6.) In mental and physical depression due to prolonged excitement this drug is of value. One of the students took from 600 to 800 drops daily of the tincture and thereby successfully tided himself over a period of great strain; he studied harder and kept later hours, &c.

(7.) There are also records of cases of spasms of the *æso*phagus, of excessive flatulency, of nervous depression characterized by fear, by ready excitability, by mental lethargy, irritability, &c., and of forms of hysteria occurring later in life especially, which are improved by this drug.

(8.) *Cardiac Neurasthenia*.—In some cases of exhaustion from continuous overwork the symptoms centre chiefly about the heart. The symptoms are feeble cardiac action, giddiness, weakness, intermittent pulse, palpitations, dyspnoea, and even syncope may be present. A physician who suffered in this way was entirely relieved by the following prescription:—R. Tr. Nuc. Vom. drs. 2, Quin. Sulph. grs. 24, Acid Hydrobrom. Dil. drs. 3, Tr. Digit. drs. 4, Aquæ, Aurantii oz. 1, M. Sig. drs. 4 thrice a day.

(1.) *Paralytic Affections*.—Strychnia is very useful in old cases of hemiplegia in patients not very advanced in life and with partial loss of the power of motion and not much wasting. (b.) It is very beneficial in spinal, reflex and hysterical paralysis of the lower extremities, and that depending upon anæmia of the cord, and (after the acute symptoms have subsided) upon concussion of the cord. (c.) It is beneficial in infantile paralysis, when electro-muscular contractility to the continuous or induced current is not lost, increasing both the growth and repair. (d.) Strychnia gives good results in facial palsy and palsy of the vocal cords. (d.) It is very serviceable in writer's cramp. (e.) Palsy of simple muscles or groups of muscles, following cold or rheumatism, is generally curative, according to Bartholow, by hypodermic injections of strychnine, which increase contractile power in palsy following injury to nerve. (f.) Strychnine also cures paralysis of the sphincter and paralysis due to myelitis, and palsy of the bladder (with dribbling). (g.) It often works well in progressive muscular atrophy where muscular contractility is not lost. In cases of paralysis, in order to produce rapid effects by regenerating the lost muscular power, strychnine should be employed hypodermically. (h.) *Contraindications*.—Strychnine is contra-indicated in recent cases of paralysis, in acute paralysis of the lower extremities with structural alterations of the cord, and that form of paralysis due to softening of tumours.

(9.) Strychnine gives very satisfactory results in amaurosis, due to alcohol and tobacco, and also in some cases of amblyopia.

Preparations and Doses.—Powdered Seed, $\frac{1}{2}$ to 3 grs.

Fl. Ext. 1 to 10 mins.

Solid Ext. 1/10 to 1 gr.

Tr. 5 to 30 mins.

Strychnia 1/30 to 1/12 gr. by the mouth ; 1/150 to 1/60 gr. hypod.

OLEATES.

This class of preparations has recently come into extensive use in medical practice, particularly in the treatment of the diseases of the skin, through the recommendations of Dr. J. V. Shoemaker. They are prepared either by the direct combination of the alkaloid or metallic oxide with Oleic Acid, or by the double decomposition of the metallic salt and Oleate of Sodium, whereby a true chemical compound results. The latter mode of preparation is recommended by Dr. Soemaker as producing the best results. From an extended clinical experience in their use, the following advantages are claimed for these oleates :—(1.) The compounds of oleic acid are remarkable for their ability to penetrate rapidly into animal textures. (2.) Ointments prepared from the pure oleates are wholly free from rancidity. (3.) The ready absorption of the oleates renders the ointments prepared from them cleaner than any others. (4.) These preparations may be applied to the skin without the tedious friction requisite to promote absorption in other cases. They are likewise much more economical in the amount of material required to produce a specific effect. (5.) The metallic oleates seem to exert an antiseptic action, not only on the fats with which they may be combined in an ointment, but also on the discharges from wounds and suppurating surfaces.

OLEATUM ALUMINII.

It has a most powerful astringent action. It quickly checks muco-purulent discharge of *Eczema* and also such other discharges, and is useful as a dressing for *foul Ulcers, Burns, Scalds and Sinuses*. Also useful for *Intertrigo* around the breasts and inguinal regions.

OLEATUM ARGENTI.

Simple Oleate of Silver is useful in chronic ulcers, old sores and exuberant granulations. An ointment containing 10 to 60 grs.

of the oleate in an ounce is employed to relieve itching and as an application in Erysipelas.

OLEATUM ARSENICI.

Ointments containing 20 grs. of the oleate of arsenic to the ounce, are used as caustics in the treatment of ulcerating and tubercular varieties of *Lupus*, ulcerating *Epithelioma* and *Condyloma*.

OLEATUM BISMUTHI.

It acts as an emollient, soothing and mild astringent, relieving cutaneous irritation. In pustular eruptions particularly *Sycosis*, the oleate lightly pencilled over will relieve engorgement of parts and will often abort the pustules. Is equally efficacious in superficial *Erysipelas*, *Sunburn*, and chronic inflammation of a portion of the face. In the form of bougies it is useful in *Gonorrhœa* and *Gleet*. It is also a valuable emollient in *Acne* and *Piles*.

OLEATUM CADMI.

It is a powerful stimulant and is useful in *enlarged glands*, especially in scrofulous subjects, and also of value in *Eczema* (chronic) and old ulcers.

OLEATUM CUPRI.

It is most useful and active in *parasitic diseases of the skin*. It was employed in nearly 500 cases of such diseases, and they were *Tinea Tonsurans*, *T. Circinata*, *T. Versicolor*, *T. Kerion*, *T. Sycosis*, *T. Favosa*, and *Eczema Marginata*. The strength of the ointment was 1 part of the oleate of copper to 6 parts of the Ung. Simplex or Vaseline. In *Ringworm* of the body some use as much as 1 part of Oleate to 4 of Vaseline or Ung. Petrolei. It is useful in *indolent ulcers*.

OLEATUM FERRI.

It is mildly astringent and non-irritating when used externally. It is useful in cases of *Scrofula* when administered with Cod Liver Oil.

OLEATUM HYDRARGYRI.

The outlines of its therapeutical uses have already been given under *Hydrargyri Oleatum* Page 333. Still something more can be said here as regards the properties and therapeutical applications of this oldest and perhaps the best known oleate. It was suggested more than 14 years ago by Prof. John Marshall, and the advantages of the preparation were so manifest that it came immediately into general use. It is stable in composition as compared with the preparation formerly in use and produces all the therapeutic effects of mercury.

It is the best local stimulant and alterative application of all the mercurials. When applied to the unbroken skin, it produces marked stimulation bordering on congestion. When rubbed in over "Tumours, Indurations and Cladular Enlargements, or thickening of the skin, it exerts a most valuable resolvent and alterative action. It is a most valuable remedy in *Syphilis*. It is rapidly absorbed, leaving only a reddened surface and there is no staining of the linen. It is quite capable of producing constitutional effects, so must be used with caution (*Vide* Page 334.) A mixture of 10 to 20 grs. of Oleat. Hydr. with one drachm of Ung. Zinci. Oleat. is very effective in *Chronic Acne and Eczema*.

OLEATUM MANGANESII.

It is a 20 per cent solution of Binoxide of Manganese and is used as an *emmenagogue* by being applied by inunction to the abdomen.

OLEATUM NICKELI.

It acts as an astringent and is useful in exuberant granulations, old ulcers, and chronic Eczema.

OLEATUM PUMBI.

When applied to the denuded skin, it exerts both a combined sedative and astringent action, arrests morbid discharges and allays irritation. It is more readily absorbed than either goulard's cerate or Hebra's Litharge ointment. It is of the greatest value in allaying the inflammation and checking discharge and itching of Eczema. (1.) It

is useful in simple *Lichen* and in the hard indurated papules in *Acne* of the face and back. (2.) A good combination in many skin diseases is drs. 2 of Oleate of Lead with dr. 1 of Oleate of Bismuth, and this is beneficial in the fissured form of palmar and plantar Eczema. (3.) When the inflammation and cracking are very deep and severe and require a marked stimulation, the addition of 20 or 30 drops oil of Cade to 2 drachms of this oleate will succeed better. (4.) In Scabies an excellent preparation is 4 drs. of Ol. of Lead Ointment with $\frac{1}{2}$ dr. of Sulphur.

OLEATUM STANNI.

Oleate of Tin has an astringent action. It is of value in papular and fissured Eczema and restores lustre in diseases of the nails.

OLEATUM ZINCI.

The true Oleate of Zinc, which is a very elegant preparation, is less irritating than the Oxide and more easily absorbed. It has a soft silky feel resembling *French Chalk*. It is a valuable application in all forms of sweating. Mixed with *Kaolin* or *Starch* and perfumed with *Thymol* (1 in 500) and used as a dusting powder, it forms an excellent application for many-varieties of local sweating, as *Hyperidrosis* and *Osmidrosis* and in *Acute Vesicular Eczema*. Dr. Murrell has used it with much success in the treatment of night-sweating of Phthisis; and along with the internal administration of either Agaricine or Eserine, it gives the best results in this troublesome symptom.

OLEATES OF ALKALOIDS.

The oleates of alkaloids in solution produce the same proportionate effect as the simple agents; they are of great benefit where the remedies cannot be administered in the usual way, or where local action is required.

1. OLEATUM ACONITINÆ.—Strength, 2 per cent. useful in neuralgic affections.

2. Oleatum Atropinæ.—Strength, 2 per cent. as an anodyne for painful parts.

3. **OLEATUM COCAINÆ.**—Strength, 5 per cent. Acts as a local anæsthetic.

4. **OLEATUM MORPHINÆ.**—Strength, 10 per cent. Useful as a local sedative.

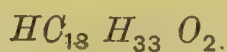
5. **OLEATUM QUININÆ.**—Strength, 25 per cent. May be administered internally with Ol. Morrhuæ and even applied externally.

6. **OLEATUM STRYCHNINÆ.**—Strength, 2 per cent. Both for internal and external uses.

7. **OLEATUM VERATRINÆ.**—Strength, 2 per cent. It is useful for neuralgia.

OLEIC ACID.

ACIDUM OLEICUM. B. P.



Characters.—Oleic Acid, obtained by the saponification of olein, or by the action of superheated steam on fats with subsequent separation from solid fats by pressure, is a straw-coloured liquid, nearly odourless and tasteless, with a very faint acid reaction. Sp. Gr. 0.860 to 0.890. Unduly exposed to air it becomes brown and decidedly acid. It is insoluble in water, but readily soluble in alcohol, chloroform, ether and oils.

Properties and Uses.—It has been employed in the preparation of those above mentioned oleates of the metals and the oleates of the alkaloids. It does not dissolve the salts of the alkaloids. It is very readily absorbed by the skin, and promotes the absorption of drugs with which it is combined.

OLEUM CADINUM.

Syn.—*Huile de Cade* ; *Oleum Juniperum Empyreumaticum* ; *Juniper Tar.*

Characters.—An empyreumatic oil, obtained in Germany and France, from the dry distillation of the wood of *Juniperus Oxycedrus*. It occurs as a slightly stick black liquid, resembling liquid pitch, with an agreeable tarry odour.

Therapeutic.—It has long been employed in veterinary medicine; but has recently been introduced as an external remedy in chronic skin diseases and rheumatism. It is chiefly and efficaciously employed as a stimulant application in psoriasis, chronic eczema, favus, &c. with the same beneficial results as the ordinary tar has been used. It may be employed either in the form of an ointment, made with equal parts of the oil and vaseline, or made into a soap, or diluted with spirit as a lotion, as in the following preparations:—R. Ol. Cadini dr. $\frac{1}{2}$, Plumbi Oleat. drs. 2, Bism. Oleat. dr. 1. Misce. This is useful when the inflammation and cracking are deep and severe in fissured form of palmar and plantar eczema, requiring stimulation. (2) R. Acidi Hydrcyan. dil. ms. 40, Olei Cadini oz 1, Sapo. Mollis ozs. 2, Olei Rosmarini dr. $1\frac{1}{2}$, Aquæ ad. ozs. 8 M. Ft. Lot. To be rubbed over the affected parts night and morning, in Chronic Eczema and Psoriasis. Oil of Cade may be used internally in the said affections in doses of only 1 to 5 drops.

OLEUM DEELINÆ.

Characters.—It is a purified Petroleum Oil, manufactured on the banks of the Dee by a process of refining. It is clean, inodorous and tasteless, does not become rancid and there is little or no greasiness left after its application.

Therapeutics.—It is of great use in skin affections and also as a liquid medium for the external applications of other medicaments. Dr. John Roberts has used it for a long time in the following diseases with great success when the other remedies had failed. It possesses great medicinal virtues over any of its family which it has been my* custom to prescribe in skin diseases. A gentleman who had general gouty eczema and where all kinds of lotions and ointments had failed to afford any but temporary relief. Decided improvement followed its application at once. The oil has been prescribed by several medical men in Chester with very favorable results and by few gentlemen in Wales, &c. I have found it very efficacious in the following cases after other remedies had failed:—

* John Roberts, M. D.

Acute General Gouty Eczema, Chronic Scorbutic Eczema, Eczema Marjinatum, Eczema with Varicose Veins, Congenital Ichthyosis, Eczema Mucosum, Chronic Erythematous eruptions, Eczema of any part of the body, Piles and excoriations about anus, Chronic Eczema of hands and anus, and all kinds of Eczema, Sycosis, &c. The oil has been found very efficacious in Eczema capitis (Impetigo) in children. In cases of eczema and other diseases where irritation is great it should be diluted with equal part of Ol. Ricini, or 1 part each of Ol. Deelinæ and Ricinæ and 2 of Ol. Olivæ, as in the following formula :—R. Ol. Deelinæ oz. 1, Ol. Ricini oz. 1, Ol. Olivæ ozs. 2. M. Very effective for Chronic Eczema and Psoriasis.

OLEUM EULACHON.

Syn.—*Candlefish Oil.*

Characters.—Eulachon Oil is procured from a small fish (*thaleichthys pacificus*) which abounds in the rivers of British Columbia, and is commonly known in that region by its Indian name, Eulachon, or Oolachon, &c. From the large amount of oil which this fish contains, it has obtained the name also of Candlefish. It forms a limpid fluid of a pale straw colour and fishy odor, unlike that of Cod Liver Oil, and perhaps to many less repulsive. It contains probably a trace of iodine. It contains 13 per cent. of an unsaponifiable substance, probably analogous to the paraffins, to which it may very likely owe any therapeutic value.

Therapeutics.—It is employed medicinally as a substitute for Cod-Liver Oil, and is said to be equally as efficacious in promoting nutrition in scrofulous and tuberculous subjects.

Dose.—1 to 4 fl. drs.

OLEUM GAULTHERIÆ.

Syn.—*Wintergreen Oil.*

Characters.—Oil of Gaultheria or Wintergreen, is a colourless, yellow or reddish liquid, of a peculiar, strong, and aromatic odour, a sweetish, warm and aromatic taste, and a slightly acid reaction.

Sp. Gr. about 1.180. Is readily soluble in alcohol. It contains a hydrocarbon, Gaultherilene, and Methyl-Salicylic Acid.

Therapeutical Properties.—Wintergreen oil has stimulant, aromatic, astringent, antiseptic, emmenagogue and galactagogue properties.

(1.) *Rheumatism.*—In it we possess a most efficient salicylate in the treatment of rheumatism. In its efficiency in controlling the pyrexia, the joint pains and the diseases, it at least ranks with any of the salicyl compounds. The best method of its administration is in frequently repeated doses, and continued in diminished doses throughout the convalescence. Its use possesses the advantages of being unattended with the occasional toxic effects and frequent gastric disturbance which are produced by the salicylic acid or its sodium salt, even when prepared from the oil of wintergreen; that its agreeable taste and finally its comparative cheapness are further recommendations in favor of its employment. The oil has been used in America with success in the treatment of acute rheumatism and acts similarly to salicylic acid and the good effects are no doubt attributed to the salicylic acid naturally contained in it. In the treatment with oil of gaultheria in rheumatic cases only six deaths occurred and all these patients had unmistakable symptoms of acute alcoholism.

(2.) *Contraindicated in Drunkards.*—That the symptoms produced by the use of this oil in the drunkards simulate delirium tremens and as is well-known salicylic acid is dangerous to drinkers and hence the use of salicylic acid or the wintergreen oil should not be continued in drunkards.

(3.) *Skin Diseases.*—Externally in the form of ointment is an excellent application for all eczematous eruptions and other cutaneous eruptions around and within the ears and other delicate parts.

Dose.—5 to 10 or 20 mins.

OLEUM MENTHÆ PIPERITÆ.

Therapeutics.—Oil of peppermint has recently been found to possess a most powerful antiseptic and germicidal properties, even

superseding corrosive sublimate. It is evidently superior to Carbolic Acid, Iodoform, Iodine, Corr. Subl., &c. It is useful in diseases in which antiseptics are indicated. It is agreeable, perfectly harmless and exceedingly powerful, 1 part of the oil in 300,000 being sufficient for the disinfection of spores and bacilli.

(1.) *Antiseptic Dressing*.—For minor operations, one drop of peppermint oil in one ounce of olive oil is quite sufficient. Lint soaked in olive oil 100 parts and peppermint oil one part was successfully used as an antiseptic dressing after resections of joints, hernia operations, removal of tumours, &c.

(2.) *Herpes Zoster*.—Dr. J. Meredith of Birmingham finds Peppermint Oil, applied locally to be capable of rapidly allaying the pain of Herpes Zoster.

(3.) *Pruritus*.—As an application in the treatment of pruritus from various causes Ol. Menthæ Pip. excels all other remedies, Cacaine inclusive, in affording relief, as in the following :—R. Ol. Menthæ Pip. ms. 5, Borax dr. 1 Aquæ Tepidæ ozs. 16. M. Ft. Lot. This is an infallible and excellent lotion for pruritus pudendi, reflex pruritus of pregnancy, pruritus of climacteric period, pruritus of elderly women of all ages having urine of very low sp. gr., pruritus due to pediculi, ascarides, endo-cervical polypus, early cancer of cervix, leucorrhœa, of vaginitis, endo-cervicitis, metritis, irritating discharges, of gouty or diabetic diathesis, &c. The lotion is inapplicable if there be rawness of surface from scratching, or if cracks and sores are present. Here Iodoform grs. 5 to Olive Oil oz. 1 is useful, and then after healing of these cracks, the lotion may be employed.

(3.) *Phthisis*.—As an inhalation in phthisis it has been found very efficacious in checking the disease.

(4.) *Diphtheria*.—As a paint in diphtheria it destroys the membrane entirely in from 3 to 4 days.

(5.) *Cholera*.—Owing to its powerful germicidal properties, and from its destroying the cholera bacillus in solutions of the strength of 1 in 2000, as evidenced from Dr. Koch's experiments, oil of peppermint may be useful in cholera.

OLEUM OLIVÆ.

Therapeutics.—Recently Olive Oil has been found to be a specific in cases of Gallstones. Olive oil when administered internally is absorbed and finds its way into biliary passages where it softens the concretions and facilitates their expulsion; it is then excreted through bile ducts. Experiments of Rosenberg show that under the influence of large quantities of oil or fat, a great increase of bile with considerable dilution takes place. This increased secretion exceeds that which follows the administration of Salicylate of Soda, which has been recommended by many as the most powerful cholagogue. He attributes the comparative rarity of gallstones in Italy to the constant use of oily salads among the people. The oil treatment is not indicated in every case of gall-stones, as frequently there is intolerance. It is best in the first place to give usual treatment a trial, especially that by sodium salicylate; if these fail one may fall back upon the Olive Oil. Even intense jaundice is not a certain indication. As fluid fat sometimes engenders sickness, the addition, therefore, of Menthol, Cognac and finely-ground Yolk of Egg, becomes valuable. Whether it should be given in larger or smaller quantity depends on circumstances, at all events, it is a mistake to abandon it on failure at the first trial. The attempt ought to be renewed; even if successful, it is advisable to repeat it several times to prevent a recurrence of symptoms. The method of administration is as follows:—

R. Ol. Olivæ oz. 1, Aquæ ozs. 4. M. Sig. One-half to be taken every fifteen minutes. Then let the patient lie on his right side for a few hours. The pain vanishes and the gall-stones get evacuated through the bowels. In case of relapse repeat the same. The prevention of bile may be helped by small doses of Salicylate of Soda for a long time, or the use of oil or oily salads, fat sauces, bacon, &c; while catarrh of the bile-ducts may be benefited by alkalies and alkaline mineral waters.

OLEUM PATCHOULI.

Syn.—Pacha, Nadada (Guj); Phangla Pangla (Bom).

Characters.—Patchouli oil, distilled from Pogostemon Patchouli, v. Suavis, a plant cultivated by the Chinese in the Straits Settlements,

occurs in two varieties in the market. One is of a sage green colour and the other of a "sherry" colour. It has a peculiar smell.

Therapeutics.—It is an excellent insectifuge. Powdered starch, or a little sawdust or cotton, impregnated with it, effectually drives away flies, fleas, mosquitoes, gnats, moths, and ants. The plant owing to its strong and agreeable perfume is used by native women in their wardrobe.

OLEUM PINI PUMILIONIS.

Syn.—*Pumiline*; *Pinol*.

Characters.—The pure essence or volatile oil distilled from the needle-like spills of the *Pinus Pumilio*, found growing just below the line of perpetual snow on the Alps. It is distinguished from the common pine oils, prepared from the larger pines of the lower altitudes of the Alps, by its permanent and exquisite refreshing fragrance, depending on the amount of *Hydrogen Peroxide* with which it generates. It is in fact a very pure essential oil, more agreeable and less irritating than other Fir oils.

Therapeutical properties.—Pinol is preferable to the common pine oils owing to its superior medicinal and sanitary properties. It is powerfully antiseptic and slightly diuretic.

(1.) *Antiseptic, Deodorant, &c.*—It possesses remarkable antiseptic properties, and may be sprayed through a room to destroy germs of disease. It is a powerful deodorizer; its odour is preferred by many to the choicest floral perfumes, and fills the air with a delicious fragrance. Pinol may be sprayed upon moustache and clothing, or a few drops may be poured upon a blotting paper to medicate the air respired. For fumigating sick-rooms it stands unrivalled.

(2.) *Diseases of the Respiratory Organs.*—Pinol has been found most efficacious in the treatment of nasal, laryngeal and pulmonary affections, as ozæna, catarrh, influenza, quinsy, clergyman's sore throat, aphonia, chronic bronchitis, bronchorrhœa, asthma and consumption, by inhalation from a Vereker's Ammonium Inhaler, or a spray or steam atomizer; it should also be given internally at the same time in lung diseases. It may also be given as a gargle in the strength of 10 to 15 drops in $\frac{1}{2}$ pint of water, in throat troubles.

(3.) An embrocation either by rubbing with the hand or applying on flannel is very efficacious in *Gout, Rheumatism, Lumbago, Sciatica, Sprains, Bruises, Strains, &c.*

(4.) An ointment of pinol gives relief in the intolerable itching of Eczema, and is also useful in other skin irritations, insect bites and burns. It is used with special benefit in Massage.

(5.) It is beneficially employed in the treatment of Genito-Urinary affections.

Preparations and Doses.—Pinol or Pumiline, 2 to 5 drops on a lump of sugar or in water ; or in jujubes containing $\frac{1}{2}$ min. of pinol in each, especially in cases of sore throat, cough, hoarseness, &c.

EXTRACTUM PINI PUMILIONIS.

Syn.—*Pinol Extract.*

Characters.—This extract, which is the residue left after the distillation of Pinol from the needle-like spills and tender shoots of Pumilio Pine, has about the same density and appearance as treacle. It exhales a delightful fragrance, for the redolence of the Pumilio is greater and more delicate than that of any other pine. It dissolves quickly and does not stain.

Therapeutical properties.—The extract is well-known for its rapid and invigorating effects in Gout, Rheumatism, Rheumatic Fevers, pains proceeding from colds or chills, kidney diseases and upon weakened and delicate constitutions, &c. It possesses decided medicinal properties and is very extensively used for baths, liniments, ointments and plasters, as follows :—

Baths.—*The invigorating and refreshing qualities of baths,* prepared by adding a definite quantity of the extract to the ordinary daily bath, fit them for the use of Anæmic women, convalescents, and sick or weak children, those in poor health and with irritable skin and suffering from cutaneous and diathetic affections, also Gout, Rheumatism, Lumbago, Sciatica, Neuralgia, Neurasthenia, Influenza, Insomnia and fatiguing exercise. When these hot baths are followed by the application of Pinol, the system is kept free to some extent from uric acid. To prepare a pine bath, pour the water of the desired tempera-

ture into a bath of usual size, and empty into it a bottle of pinol extract. Half a bottle is sufficient for a child's bath. The best time for a hot pine bath is just before going to bed. A pinol bath may thus be taken several times a week, and is a most grateful restorative to the weakened and delicate constitutions, and in affections just mentioned above :

(2.) *Urinary diseases*.—E. Hurry Fenwick who has made use of it in the Hospital for Urinary Diseases, states that it has a slight diuretic action and *relieves renal pain unconnected with calculus*. It is of use also in a bath, and as a liniment in *Gonorrhœal Rheumatism*. It is a pleasant vehicle for drugs in *Pyelitis and Cystitis*. Has proved of benefit in *Gleet*.

(3.) Puniline Plaster is most effective in *chronic and Muscular Rheumatism, Lumbago, Sciatica, and also for Chest Affections*.

(4.) The extract may be employed as liniment in *muscular pains, sprains, contusions, &c.*

(5.) An ointment with Lanolin affords great comfort to patients suffering from *Eczema and other irritable skin affections, vulvar irritability from other causes, burns, &c.* It is also useful for making *digital examinations in midwifery practice*.

Dose.—Pumilio Pine Extract, dr. 1, in water for adults.

OLEUM PINI SYLVESTRIS.

Syn.—*Fir-Wool Oil*.

Characters.—The oil, distilled from the fresh leaves of the Scotch Fir (*Pinus Sylvestris*) is colourless and transparent with an aromatic lavender-like odour and a pungent but not unpleasant flavour. Soluble in about seven times its volume of rectified spirit.

Therapeutics.—It is much employed on the continent of Europe in cases of rheumatism as an embrocation. It is useful as a mild but effective stimulant in chronic laryngitis, in the form of inhalation as follows :—R. Ol. Pini Sylv. ms. 40, Magn. Carb. Lev. grs. 20, Aquæ ad. oz. 1. M. Sig. Put one fluid drachm of this mixture with half a pint of cold water and half a pint of boiling water, for each inhalation.

OLEUM SASSAFRAS.

Characters.—A volatile oil, distilled from *Sassafras Officinale*, occurring as a colourless or yellowish liquid, becoming darker and somewhat thicker by age, and exposure to air, having the characteristic odor of sassafras, a warm, aromatic taste, and neutral reaction. It is readily soluble in alcohol.

Physiological actions.—It has a decided narcotic or intoxicating effects on the brain, induces tetanic and clonic spasms, followed by paralysis. It produces powerful uterine contraction.

Therapeutical actions.—In medicinal doses it is a warm stimulant, diaphoretic, diuretic, alterative and tonic. In non-medicinal doses it is not an innocent agent as it is supposed to be, but possesses violent toxic properties, and produces abortion. There are two cases on record in which *abortion* followed the internal use of sassafras in the form of a tea.

(1.) *Neuralgia.*—It is highly recommended in neuralgia. A piece of flannel saturated with it and rubbed on the affected part briskly, until the skin is reddened by the friction, is effective in relieving the neuralgic pains; at the same time it should be taken internally.

Toxicology.—*Ol. Sassafras* is an antidote to poisoning by *Henbane* and *Tobacco*. A child ate *Stramonium* Flowers and showed symptoms of poisoning. An emetic was administered and 10 drops of Oil of Sassafras were given every half hour, and then Castor Oil, until 6 doses of the Sassafras Oil were taken, and the child recovered.

Dose.—2 to 10 mins. or more; maximum dose dr. 1.

SAFFROL.

It is the liquid stereoptene of Sassafras Oil and is useful in cases of *Headache* and *Sciatica* in doses of 20 drops.

ORTHOSIPHON STAMINEUS, Benth.

Syn.—*Koemis Koetjing* (Malay.) *Java Tea*.

Part employed.—The Leaves. N. O.—*Labiatae*.

Habitat.—India, Java and E. Indian Islands, and Australia.

Characters.—A loosely branched perennial plant, from one to three feet in height, slightly hoary-pubescent or glabrous; stem, four-angled. Leaves, in distant pairs two to four inches, cuneately narrowed into the petiole; petiolate, ovate or ovate-lanceolate, often acuminate, one to two inches long, irregularly and coarsely toothed. Flowers white or purplish, in whorls of four to six, in loose but rather short terminal racemes; calyx one-sixth inch, campanulate, fruiting deflexed; corolla-tube thrice as long, the lips very spreading, shorter than the tube, very slender. Stamens four, declinate, filiform two to three times as long as the corolla tube: Style still longer. Nutlets broadly oblong, compressed rugulose.

Chemical Composition.—According to M. Perinelle, this plant* has been found to contain a glucoside which has been named *Orthosiphonin*. The crystals of this were found to be very soluble in water, sparingly in absolute alcohol, very slightly in chloroform and quite insoluble in ether. The aqueous solution is not precipitated by the usual reagents for alkaloids, and does not reduce Fehling's solution. The crystals under microscope appear in the form of elongated parallelopipeds, having blunt edges and often united to groups, resembling Greek crosses.

Therapeutical properties.†—*Orthosiphon Stamineus*, or Koemis Koetjing (Cat's Moustache) as the Malays term it, on account of the lengthy stamens and pistil of the flower, has long been known and used in Java for its action on the *kidneys and bladder*. The Governor-General of the Dutch East Indies was the first European who called attention to the virtues of this drug as a remedy in *gravel*, having himself experienced its beneficial action in a very painful case of this complaint after having tried "the whole arsenal" of the diuretics of European pharmacopœias. An infusion of the leaves of *O. stamineus* was employed and at the end of a day or two, he remarked to his great satisfaction a distinct amelioration of his sufferings. The urine which for long while had been turbid and thick, became clear; the pains in the kidneys disappeared; and after a reasonably long employment of the medicament, he could be consi-

* *Répertoire de Pharmacie*, March, 1888.

† Parke, Davis & Co.'s Scientific Working Bulletin.

dered cured. Through the Governor-General's introduction and recommendation, and semi-official reports from the colonies as to the growing favor in which it was held by the local members of the medical profession, *O. stamineus* has rapidly assumed the place in Holland of an indispensable article of the *materia medica*. Dr. C. L. Van der Burg for many years physician at Batavia, Java, and author of "The Physician in East India" speaks very highly of the plant as a diuretic and especially of its beneficial effects in gravel, chronic cystitis and pyonephrosis. From Holland where it first obtained a foothold in European practice the reputation of its diuretic properties and its efficacy as a remedy against gout have brought about its tentative recognition in France and England. From the results of the experiments with *O. Stamineus* at the Necker Hospital by Prof. Guyon and by the principal clinics of the diseases of the genito-urinary passages, in the estimation of M. Perinelle in the article above referred to, the plant is destined to occupy a place in the French *Parmaeopœia*.

Clinical Reports.—Dr. Frochard recommends *O. Stamineus* as a powerful diuretic and reports the following cases:—

CASE 1.—H., aged 60, had passed gravel in his urine for a year. An infusion of Java tea (five grammes to the litre) was prescribed daily. The urine gradually became clear and abundant.

CASE 2.—F., aged 52, for six months had suffered every three weeks from nephritic colic, followed by the expulsion of calculi. Java tea was prescribed in the same way as in Case 1. In the next two months he had only one attack, and during the five months which had since elapsed he had not suffered at all.

CASE 3.—M., aged 46, had suffered since 1883 from ascites due to cirrhosis of the liver. For a month he took Java tea, at first five grammes, and then ten grammes in a litre of water. The abdomen diminished in size several centimeters weekly.

Preparation and Dose.—Fl. Ext., 20 to 30 mins. largely diluted 3 to 4 times a day, or about 2 drs. in the 24 hours.

OXYGEN.

The following are the chief uses of Oxygen Gas by inhalation in therapeutics.—

(1.) *Cases of Poisoning.*—Oxygen is the most effectual indeed and the only means of preserving life in poisoning by Chloroform, Ether, Chloral, Opium and its Alkaloids, and Hydrocyanic Acid. It has proved to be a successful resuscitant after the complete failure of all other known means, including *artificial respiration*.

(2.) *In Anæsthesia.*—Oxygen restores the sensibility and eliminates the narcosis of anæsthetized persons. Its presence in the operative room would be an infallible safe-guard against fatal accidents caused by anæsthetics.

(3.) *Asphyxia.*—(a) Oxygen inhalation has been employed with success in cases of suffocation resulting from Strangulation, Drowning, or various Gases, and offers the best prospects of success. In suspended vitality of the New-born it is equally valuable. (b) In all cases in which respiration has not entirely ceased, even if the intervals between the single respirations be very great, oxygen will almost surely sustain life, provided the inhalations are persisted in sufficiently long. (c) If cardiac and respiratory actions have stopped only a short time, the patients can often be restored to life through oxygen. This means of resuscitation ought to be invariably resorted to and a very slow return to life ought to be no cause for discouragement. *Cases of preserved and almost induced life in drowned persons and apparently stillborn children*, due to persistent endeavours with oxygen, are not infrequently reported. (d.) Oxygen can be respired (inhaled), without the slightest injury, in notable quantities. (e.) There is *no contraindication* to the use of the oxygen gas in any case of *asphyxia*.

(4.) *Leukæmia, Anæmia, &c.*—Oxygen gas has recently been used with success in the treatment of *Leukæmia*, and grave *Anæmias*. From 20 to 30 litres of oxygen can be given by inhalation per day and gradually increased to 60 to 100 litres per day, in 2 or 3 sittings. Whether permanent effects follow this oxygen treatment or mere temporary benefit and prolongation of life, in grave cases of *leukæmia*, it cannot as yet be said. In cases where structural changes are still slight

the remedy may bring about a permanent change ; in more advanced cases this is more doubtful. But under any circumstances it prolongs life and produces results not to be otherwise obtained.

(5.) Lastly, among the affectionous, in which it has been proved of benefit, are, *Dyspepsia, Anæmia, Chlorosis, Croup, chronic Gastric catarrh, Cholera and Opium Narcosis.*

PANCREATIC EXTRACT.

Syn.—*Pancreatine, Zymine (Fairchild.)*

Characters.—A pure dry impalpable powder obtained from the pancreas or sweetbread, and containing in the most active and concentrated form all the Enzymes of the Pancreas—viz., Trypsin, Amylosin, Steapsin and Rennet Ferment.

Therapeutical properties.—Among artificial digestive agents, the preparations of pancreatin have of late assumed especial prominence. The action of pepsin is confined to the peptonizing in acid solutions of the albuminoids ; it has no action on fatty or starchy foods. The pancreatic fluid, on the other hand, digests all kinds of food, converting albuminoids—viz., the white of egg, cooked meat, the casein of milk or cheese, the vegetable casein of wheat or peas, &c.—into peptones, starch or dextrine into sugar, and reducing fats to the form of a perfect emulsion. While these effects are energetically produced in alkaline solutions, they are not wholly prevented by the presence of acids. Zymine or Extract Pancreatis is rightly considered as one of the greatest advances in modern medicine. It affords a natural and most efficacious means for the treatment of dyspepsia. It is our only means of pre-digesting all kinds of foods, administering them fresh and palatable, and in such form that they will not prove a burden upon digestion. It is the only agent which does for the digestive organs what they are unable to do for themselves. It has revolutionised infant dietetics, in as much as its addition to cows' milk renders that fluid precisely like mothers' milk in every particular, after the lapse of half an hour. Milk which has been peptonized is suitable for all preparations where plain milk is used. As the milk thus peptonized will not curdle, it will be made into a delicious iced milk lemonade, rum punch or other drink, and given as a cooling nutrient beverage in fevers and other wasting

diseases. Extract *Pancreatis* *relieves the most aggravated forms of dyspepsia* when everything else has failed. The feeblest and most sensitive stomachs never fail to retain and relish food when it has been peptonized with Extr. *Pancreatis*. Peptonized milk is of service in every condition *when the digestive organs are in any way at fault*. Cases hitherto fatal because of inability to digest and assimilate the proper nourishment recover under the administration of peptonized milk. It cannot be curdled, and presents all the nutrient ingredients of the milk—the oil globules, sugar of milk and dissolved casein—ready for immediate absorption. It speedily relieves the eructations, nausea, violent retchings, vomiting, abdominal tenderness and griping pains that accompany alimentary derangements. Foods or milk peptonized with this extract do not cause stomach cramp, heart burn, water-brash, or other distressing Symptoms.

(1.) *Dyspepsias*.—In the digestive derangements always incident to the hot summer months as nervous, atonic, acid and bilious dyspepsia, as well as the dyspeptic complaints consequent on table indiscretions, barometric influences, excessive social activity or nervous exhaustion from any cause, peptonized foods are attended with the most beneficial results. The success attained with it in senile dyspepsia has been unprecedented.

(2.) *Vomiting*.—It is indicated in the vomiting of pregnancy and the uræmic vomiting of Bright's disease, in the vomiting of gastric ulcer, catarrh and inflammation, and in the vomiting and wasting of pertussis.

(3.) *Diseases of the Stomach*.—It is especially indicated in those various conditions that are characterized by *severe stomachic pains, and in gastric fermentation and putrefaction, as when sarcinæ occur*. Milk peptonized with it is the only food that can be taken in cases of *new growths and degenerations of the stomach, in certain conditions following the ingestion of irritants and foreign bodies, in punctured wounds of the stomach and after gastrotomy, and gastrostomy, gastritis and gastric carcinoma*. Dr. A. H. Smith and T. A. McBride report a case of *gastric ulcer*, in which the stomach was found to retain milk peptonized with Zymine though all other foods had been rejected for weeks and the patient sustained solely by enemata; the patient ultimately recovered.

(4.) *Biliary and Pancreatic Disorders.*—(a.) In occlusion of the pancreatic duct, and in cases where the secretion has been lessened or imperfect, extr. pancreatis in the form of tabloids (Zymine tabloids) are the only certain and direct means of sustaining the digestive work. When there are biliary troubles and the bile does its work imperfectly, or is not poured into duodenum, these tabloids are useful. The relief afforded to those with the biliary diathesis has been great. Dr. George Harley* reports a case of *obstruction of the pancreatic and biliary ducts* in which he administered $1\frac{1}{2}$ grs. of this extract in the form of pills three times a day with apparent benefit. This was the first practical application of the enzymes (or active principles) of the pancreas ever made in the treatment of the disease.

(a.) As a food aid in *Bilious Dyspepsia*, compound Zymine tabloid composed of Extr. Pancr. 2 grs., Bism. Subnitr. 3 grs., and Pulv. Ipecac. gr. 1/10, is very useful; here small dose of Ipecac. stimulates the secretions and will relieve any tendency to nausea, while the Bismuth acts as a sedative to the irritated parts, as well as a mineral tonic. It is usual to administer one or two of the Compound Zymine Tabloids an hour or so after eating.

(5.) *Diseases of the Intestines.*—Wherever there is defective digestion of nitrogenous, starchy or fatty matters this extract is useful. It is best administered, in intestinal indigestion, as where the dyspeptic symptoms occur a couple of hours after eating, with (possibly) tenderness over the duodenum and a sensation of burning, distress and flatulence, in doses of 6 grs., in powder, pills or still better tabloids (Fairchild's Zymine Tabloids) a couple of hours after food. It is indicated in intestinal catarrhs, intestinal derangements in phthisis, enteritis, peritonitis, intestinal obstruction, cholera infantum, &c.

(6.) *Diseases of Infants and Children.*—It is without exception the only preparation fit for feeding young infants artificially, and children thrive on it as readily as on the mother's milk. If a child is so weak and exhausted that it will not digest the mildest form of prepared food, and it is impossible to obtain breast-milk—for this should be our

* At page 73 of Dr. G. Harley's work on "Jaundice and Disease of the Liver and Pancreas, published in 1863.

first thought—it is useless to weaken the condensed milk, or whatever we use, to such a degree as to make it absolutely valueless as a nutrient, the proper thing to do, under such circumstances, is to give milk which has undergone partial digestion by the Extr. Pancreatis in an alkaline condition. Milk* peptonized with Zymine had been successfully used in the following cases :—(1.) Chronic intestinal catarrh of six months' duration in a child one year old. Marked wasting. Rickets. Rapid recovery. (2.) Chronic intestinal catarrh of seven months' duration in a child fifteen months old. Recovery in ten days, and rapid increase in weight. (3.) Chronic gastro-intestinal catarrh (from birth) with acute catarrhal pneumonia in a child one year old. The Peptonized Milk agreed thoroughly; the vomiting and purging ceased. (4.) Extreme emaciation and exhaustion in a child three weeks old. Rapid recovery. (5.) Cholera infantum in a child two months old. The Peptonised Milk was used as soon as the vomiting and purging had been checked. Rapid recovery. In short, Extr. Pancreatis is useful in all conditions of malnutrition and wasting of children, in the wasting of pertussis, in the diarrhoeal diseases of infants and children brought on by the atmospheric and barometric influences of the summer and autumn months, by dentition, &c. (1) As a food for the sick, peptonized milk is much superior to any fermented milk (Koumiss) for in the process of fermentation the casein is not digested at all. (8.) Lastly it is eminently useful in the digestive derangements of Phthisis; in Infectious and Contagious Diseases, as Typhoid, Scarlet Fever, in Chronic Alcoholismus and Anorexia, in alimentary derangements accompanying Cardiac Affections; in the later stages of Cirrhosis of liver, in Pernicious Anæmia, and in all diseases where milk and skim milk are prescribed.

Preparations and Doses.—Extr. Pancreatis or Zymine, 3 to 6 grs., to be taken directly after a meal if the effects be desired to be produced in the stomach, and 2 or 3 hours after meal, if in the intestines.

COMPOUND ZYMINE TABLOIDS. (each containing Zymine 2 grs., Bismuth 3 grs., Ipecac 1/10 gr.), one or two tabloids immediately after a meal or a couple of hours after, according to the effects desired.

* Franchis L. Haynes, M.D., Philadelphia.

PEPTONIZING POWDERS (each containing Zymine 5 grs. and Sod. Bicarb. 15 grs.), 1 to peptonize a pint of milk.

ZYMINIZING NUTRIENT SUPPOSITORIES. They contain Milk or Meat Peptonized and contain upwards of 100 grs. of nourishment, and alone will sustain life for a long time.

PAPAW.

CARICA PAPAYA.

Syn.—*Papay*, Melon-Tree (*Eng*); *Papaîn* (*Guj*.); *Papiya* (*Hind.*); *Papai* (*Bom*); *Papaya* (*Mah*.); *Anabahe-hindi* (*Arab. and Pers.*; *Pappali-maram* (*Tam*).

Parts employed.—*The milky Juice and Seeds.*

N. O.—*Papayaceæ* *Habitat.*—*West India and South America. (Warmer parts of the Old World).*

Characters.—The Papay-Tree, a native of Western Hemisphere, but now cultivated in India and other tropical countries, is a tree 20—30 ft. high without branches and with alternate, palmate, 7-partite leaves on long petioles; Male flowers, axillary, in slightly compound racemes or panicles, and white coloured.; female flowers, generally on different tree, are yellowish, large and in the axils of the leaves. Fruit, succulent, oblong and furrowed, yellowish green when ripe, and containing numerous, hard, round, grey-coloured, albuminous seeds. The two varieties of Papaw exist, and that which produces the reddish fruit yields the best results. Its wood, leaves and unripe fruits contain a great abundance of thick milky viscid juice, which contains a digestive ferment (active principle) called *Papain*.

PAPAIN OR PAPAYOTIN.

Characters.—It is an albumenoid ferment obtained by precipitation with alcohol from the juice of the fruit of Papaw Tree. It occurs as a whitish amorphous powder, being capable, like pepsin, of digesting 200 times its weight of fresh fibrin, but differing from it in being active without the addition of free acid; it operates at a temperature between 60° and 70° c. It acts best as a solvent in alkaline solutions. Like pepsin it curdles milk.

Physiological Actions.—There is nothing very remarkable about its physiological actions, except, that it has a powerful action upon nitrogenous substances and when thrown directly into the circulation, papayotin acts as a powerful poison by paralyzing the heart and nervous centres; otherwise it is quite harmless in medicinal doses internally.

Therapeutical actions.—The Papaw is one of the most important of the vegetable products. The juice of the unripe fruit possesses powerfully solvent and digestive properties and is also anthelmintic. On account of its power of rendering the raw meat tender, the unripe fruit has been frequently employed with satisfactory results by the Indian cooks. The powdered seeds are also anthelmintic, and have a great reputation in Southern India for their powerful emmenagogue properties. The preparation from the Carica Papaya, mostly used as a therapeutic agent, has been its active ferment, Papain or Papayotin, and *that it has a marked solvent action is open to no doubt.* Its local application is turned to good account in cases of *Diphtheria, Ulcerated Throat, Croup, Eczema, Fissure of the tongue, &c.*; and its internal administration is beneficial in cases of *Indigestion, Dyspepsia, Nephritic Colic, Tænia Solium, Flatulent Diarrhœa, Lienteric Diarrhœa due to teething and Renal Stone, &c.*

(1.) *The digestive action of Papain compared with Pepsine and Pancreatine.*—(1.) It acts with remarkable energy in a concentrated liquid. This is important, as the degree of concentration in the stomach and intestines is usually considerable. (2.) It acts in an acid, alkaline, and neutral solution, so that it may be expected to exert an effect even when the reaction of the contents of the stomach has been changed to alkalinity or neutrality by indisposition, or artificially, as when drugs have been administered. Pepsine would certainly be useless in these cases. (3.) Being active in an alkaline and neutral solution, it will continue to exert its influence when the food has passed from the stomach into the intestines, where the reaction is alkaline, thus identifying its actions with that of Pancreatine (Zymine). (4.) It is capable of acting more powerfully than Pepsine, even when the quantity of liquid is moderately or very large in proportion to the solid food to be digested. (5.) Be-

sides the proteolytic action, Papain exercises to a marked extent an emulsifying action on oils. (6.) The action of Papain is increased by the presence of pepsin and pancreatine. (7.) It acts at the temperature of the body. (8.) Meat infused with a solution of papain keeps, while undergoing a softening process, much longer, than it does without it; from this it can be inferred that it has an *antiseptic, as well as a peptonizing action.*

(2.) *Gastro-Intestinal Affections.*—Papayotin has been employed in France to assist the digestion of meat in cases of dyspepsia and other gastro-intestinal affections. It has been prescribed with success for various complaints of the stomach and bowels in children. Vomiting and indigestion are said to be very quickly relieved by small doses. That papayotin given by the mouth or in nutritive enemata is especially serviceable when there is a deficiency of the normal gastric juice. Probably the solvent power of this agent will yet be made available in many *Gastric Carcinoma*. Papain is chiefly valuable in chronic stomach catarrhs of children, acid dyspepsia, severe gastric pain coming on shortly after eating.

(3.) *Chronic Stomach Catarrhs of Children:*—Biliousness of children characterized by loss of appetite, languor, pasty complexion, loss of sleep at night and irritability during day, frequently frontal headache, urine loaded with lithates. In this state continued for any length of time, the child emaciates, the unhealthy mucus which sheaths the stomach and intestines, preventing the due absorption of food. Cod Liver Oil and Syr. Phosph. Co. which are generally given for emaciation are not assimilated; sometimes a cough developes and the child is said to have *incipient phthisis*. Dr. Herschell has found these cases rapidly improved by following prescription:—R. Papain (Finkler) gr. $\frac{1}{2}$ to 1, Sacch. Lact. gr. 1, Sod. Bicarb. grs. 5. Ft. Pulv. 1. To be taken after every meal; it is also advantageous to give a drop or two of Tr. Nux. Vom. immediately before meal in a little water.

Dr. Hutchison has also administered papain successfully in twenty cases of children, of which 12 were cases of lenteric diarrhoea due to teething, 5 of mal-assimilation from improper articles being included in the dietary, and the remaining three cases of

diarrhœa so severe and so profuse as almost to merit the title *choleraic*. All of them were infants whose ages ranged from 6 to 12 months. Of these twenty, seventeen were cured. In all of them purging and vomiting were the symptoms. The drug acted quickly and the recovery was rapid in those cases where the stools were of green colour like chopped spinach, and the vomited matter consisted of lumps of undigested milk; two cases became worse and worse and died and in the third treatment was changed. The formula he used was:—

R Papain gr. 1, Pulv. Doveri grs. 4, Sod. Bicarb. grs. 10.
Sig. Div. in pulv. 12. Of these powders he gave one night and morning. In cases of *diarrhœa* Dr. Hutchison prefers Papain to Papaw Juice, on account of the laxative action of the latter.

(b) *Acid Dyspepsia*.—Papain is extremely valuable in this form of dyspepsia. As it acts equally well in presence of alkali, a sufficient quantity of Bicarbonate of Soda may be given to neutralize the excess of acid in the stomach. Its antiseptic action checks the abnormal fermentation to which flatulence is due. Here following is effective:—

R Papain grs. 2, Sacch. Lact. grs. 5, M. et. ft. P_v. 1.
To be taken one hour after meals with the following draught.

R Sod. Bicarb. grs. 15, Glyc. Acid. Carbol. ms. 8, Sp. Ammon. Aro. ms. 20, Aquæ ad. oz. 1. Taken one hour after meal a smaller dose of papain is required to produce the same result than if taken with the food.

Dr. Hutchison prefers the dried juice of the Papaw in cases of *Dyspepsia* as follows —

R. Succ. Papaw grs. 12, Pulv. Ipecac. grs. 12, Pulv. Rhei. grs. 32, Glycerine q. s. Fiat massa et div. in pil. 12.

This pill he directs to be taken immediately after food. The reason of choosing the dry papaw juice is that among its therapeutic effects it is slightly laxative and this is the more satisfactory, as in the dose given (1 gr. in each pill, it acts as a very mild aperient and

does not by any means purge the patient. Again, papaw milk, the carefully dried sap from the tree, has a more specific action, in the various cases he records, than the active principle itself, due to the presence of other constituents in combination with papain. In cases where the discomfort after food amounted to actual pain he prescribed papaw combined with opium as follows :—

R Succ. Papaw grs. 12, P. Opii. grs. 3, Glycerine q. s.
Fiat. massa et div. in pil 12. One to be taken after every meal.

(3.) Evers has employed the milk in the treatment of Splenic and Hepatic enlargements with good results in doses of a teaspoonful of the fresh juice with an equal quantity of sugar, per day.

(4.) *Diphtheria and Croup*.—In croup and diphtheria it has been used with marked success. During the late epidemic of Diphtheria at Ealing, Papaine in solution with Glycerine was applied locally with success. Koths and Aschbach report favourable results in fifty-three cases of diphtheria. Rossbach advises that a solution of papayotin, made as strong as possible, be kept in constant contact with the exudations in bad cases of croup, by painting over same and dropping it into nose and mouth every five minutes. In diphtheria the membrane is dissolved by painting about five times a day and in all but very severe cases the application is successful on the first day ; the fever disappears, and the pulse becomes normal. It is advisable the solution be made fresh.

Dr. A. Jacobi, President of the New York Academy of Medicine, read a paper in February, 1886, before the Medical Society of New York, in which he gives his experience in several cases he had treated with Papaine, from which I extract the following notes :—

CASE 1.—H. B., æt. 15 ; France ; resident New York City ; seen in consultation, Jan. 19, 1886, with Dr. Heinemann. Patient had severe nasal and tonsillar diphtheria. Papayotin was applied every hour. Within 6 hours the membrane presented a translucency. having been melted down to some extent. Within 12 hours the effect was decided, portions of the thin membrane coming away upon the brush without effort. Gradually the membrane seemed to be dissolved and at the end of 36 hours it had appeared.

CASE 2.—J. L. O. æt. 38; dentist; United States. Seen in consultation with Dr. H. N. Heinemann. On April 16th 1885, patient became ill with tonsillar diphtheria. Subsequently it extended to the nares, the membrane melted down under its use rapidly and within 48 hours had completely disappeared. In these cases papayotin was used in the proportion of one part in four parts of water and four of glycerine.

CASE 3.—This was a case of membranous laryngitis. Here after tracheotomy the same solution was used, at first every hour and then every 2 hours. After a few hours shreds of membrane were coughed up.

(5.) *Nephritic Colic*.—Papaine relieves nephritic colic, not in the stage of the passage of a calculus, but in decreasing the pain experienced in the succeeding attacks. A gentleman who had passed after much agony a small mulberry calculus, continued to have dull aching pains in its right kidney with slight hæmaturia and testicular pain. He had been taking citrate of lithia without result for two months, and as a *dernier resort* Mr. E. H. Fenwick administered papain in doses of 6 to 12 grs. per day. In a month or two the pain decreased and he had a much less severe attack of colic than before. He now usually administers papain in doses of 1 to 3 grs. in pills with meals, in cases of renal stone either of the *oxalate or urate type*.

(6.) *Anthelmintic*.—The milky juice mixed with honey and followed by a dose of castor oil is very useful in cases of lumbrici. A girl of 15 years, suffering badly from the presence of *Tænia Solium* was successfully treated by Hutchison by 3 gr. doses of dried papaw juice; it was combined with 4 grs. of Dover's powder, in order to relieve the severe colicky pains from which she was suffering. Copious pieces of *parasite, all broken and shrunken* were passed in every stool, with subsequent marked relief to the patient.

(7) *Galactagogue and Abortifacient*.—From experiments made by the Committee appointed by the Royal Society of New South Wales for inquiring into the properties of the drug the following results have been obtained:—Their experiments were made with the liquid extract containing not more than four per cent of alcohol,

a tincture of the ordinary Pharmacopœia strength, and a solid extract of a gelatinous consistency. Their experiments appear to show that the *mammary secretion could be stimulated*, in cases where the flow had commenced to fail, either by the internal administration of the drug or by topical applications. It is even claimed that in the virgin breast it can call forth a limpid secretion, but that this effect is merely transitory. The Committee appear to claim without reserve the greatest efficiency for *Carica papaya* as a galactagogue. They have also noticed that when administered to pregnant patients it *acts as an abortifacient*."

(8.) *Affections of the Throat and Tongue*.—In fissures of the tongue and in ulcerated states of the tongue and throat, whether syphilitic or not, a solution of Papain 10 to 20 grs. in one ounce of Glycerine, with the addition of little cocaine to relieve the pain, is very beneficial when applied with a brush. Prof. Schwimmer in cases of fissure of the tongue recommends the following, viz.: Papaine, gr. viij—xvi, aq. distil and glycerine aa, min. 80. The solution is applied with a camel's hair brush two to six times a day; this has the effect of stopping the pain and causing the renewal of the epithelium. Some 25 cases were permanently cured by the use of this application. *In syphilitic and other ulcerated states of the mouth and throat*, instead of these applications, Mr. E. H. Fenwick highly recommends lozenges containing Papain 1/5 gr. with cocaine 1/16 gr. The Papain acts upon the patches, promptly removing them, whilst the cocaine renders deglutition painless, and soothes the irritated mucous membrane. Many persons are deriving great relief from *sore and inflamed throats* by means of these lozenges, and medical men who visit *infectious cases* where the mucus of the throat might become involved, carry them about with them as a *preventive*.

(9.) *Affections of the Skin*.—In old standing cases of *Chronic Eczema*, more especially of the palms of the hands, in Psoriasis, hypertrophied conditions of the palms of the hands, Corns, Warts and hardness of the skin, are benefited by painting twice a day a solution containing Papain 12 grs., Borax grs. 5, and Water 2 drs, after washing the parts with soap and water. It is also useful locally in lichen tropicus. Rubbing the milk (fresh juice) in 2 or 3 times a day is also useful in curing Ringworm and Psoriasis.

(10.) *Otorrhœa*.—Papain has recently been found useful in *chronic suppuration of the middle ear*. Dr. Johnson has used it in a number of cases where syringing was insufficient to cleanse the ear and readily dissolve the hard debris. His method is to drop 15 mins. of a 5 per cent solution into the ear care being taken that it reaches the bottom of the meatus. If possible the patient should be made to swallow while holding the nose, so as to draw the fluid into the middle ear. After allowing it to remain an hour, the ear is syringed out and development of bacteria is prevented by the use of Boracic Acid. This plan is especially suitable where there is a long standing case and only a little thin and foul smelling discharge also where there is no perforation, but where a firm plug of wax and epithelium are caked together and could not be dislodged by syringing. It acts better by the addition of 5 grs. of Sod. Bicarb. to the half ounce of papain solution.

(11.) Lastly, Papain has been employed locally to dissolve external carcinomatous tubercles, *as swollen cervical glands, mammary glands and axillary glands*.

Preparations and Doses.—Papain or Papayotin, 1 to 8 grs.

Suc. Papaw, 20 to 60 mins.

Suc. Papaw Exsic. 1 to 2 grs. or more.

It yields 1/6th, of its weight of papain.

PARAGUAY TEA.

Ilex Paraguayensis, *St. Hil.*

Syn.—*The Brazilian or Paraguay Holly; Yerba Mate.*

Part employed.—*The Leaves.* *N. O.*—*Aquifoliaceæ.*

Habitat.—*Brazil and Argentine Republic.*

Characters and Chemical Composition.—A small evergreen tree, growing in Paraguay, with simple, exstipulate, coriaceous leaves. It contains theine like China Tea, but a larger proportion of mineral salts than either Tea or Coffee. Like China Tea it also contains a volatile oil, tannin and gluten.

Physiological actions.—It does not exalt the peripheral nerves like tea, nor the cerebral like coffee, but rather induces indolence and

drowsiness; it accelerates the cardiac contractions and peristaltic movements.

Therapeutical actions.—The properties of this drug depend on the caffeine it contains. The leaves are diuretic and exhilarant, and in large doses, emetic and cathartic, and when taken to excess produce a kind of intoxication. It promotes digestion and augments appetite, but its continued and immoderate use produces dyspeptic symptoms like tea. It is used as a stimulant to sustain the system when undergoing hunger, or great fatigue, during the summer heats.

Preparations and Doses.—Leaves, 30 to 60 grs.

Fl. Ext., 30 to 60 mins.

PARALDEHYDE.



Characters.—Paraldehyde, a polymeric modification of Aldehyde, is a colourless fluid of a strong and penetrating ethereal odour, and of a very acrid and enduring taste. Soluble in 7 parts of water.

Physiological actions.—The action of Paraldehyde closely resembles that of Chloral Hydrate, with the exception that it appears to have no depressing actions whatever on the heart. It does not interfere with the secretions, except that of the kidneys which it sometimes seems to increase. After an hypnotic dose of Paraldehyde has been taken, there arises the same sensation as that arising from Chloral Hydrate,—viz., a feeling as of cold water flowing through the posterior part of the brain towards the medulla oblongata; and this is immediately followed by quiet dreamless and refreshing sleep. During this sleep the breathing is somewhat slower and deeper than in the waking hours, whilst the pulse becomes less rapid and possibly stronger. Temperature is not changed. It acts on the cerebral hemispheres, and causes torpor without the preliminary excitement so common in the action of the sleep producing class. After the hemispheres, the action extends to the medulla oblongata and then to the cord. A lethal dose suspends the functions of the medulla and the respiratory centre, and the action of the heart ceases after the respiration.

Therapeutical actions.—(1) *Hypnotic* : (a) As an hypnotic Paraldehyde stands in the same rank with Chloral, *possessing most of the qualities, and none of the dangers of Chloral*. It is to be preferred to Chloral, because it does not lower the blood pressure or disturb the circulation. *No ill-effects of any kind*—no after nausea, depression or headache—have been observed to follow its very free administration. On the other hand, however, *it is inferior to Chloral in intensity of action*, and the patient soon becomes accustomed to it. Like many other hypnotics, complete quiet after administration is necessary to its successful action. When a dose is taken a feeling of warmth, a kind of grateful glow is experienced and the patient is asleep within 10 or 15 minutes, the effects lasting from 5 to 7 hours. Larger doses, no doubt, would produce longer narcosis. When paraldehyde does not produce sleep, it does not excite, but rather tends to soothe and calm an excited or depressed patient. The sleep produced by it *is a nearer approach to natural sleep* than that obtained by the administration of any other drug. The sleep is light, apparently dreamless and certainly refreshing. The patient can any time be awakened by a loud word or gentle shake and when so aroused does not display any alarm or confusion of ideas and if left alone at once falls to sleep again.

(b) Paraldehyde, as an hypnotic, is most useful in Mental and Nervous disorders as, Acute and Chronic Mania, Melancholia, Dementia, the various stages of General Paralysis, during those periods of restlessness and sleeplessness so often met with in Idiots and Imbeciles and in simple Insomnia, in which cases it has been found invariably a certain somniferant. By the Italians it has been prescribed with very marked success in Acute Mania, in the wakefulness of Dementia Paralytica, in Hysterical paroxysms, and in the Insomnia arising under ordinary conditions. They have found it especially useful in the form of wakefulness caused by the *fear of inability to sleep*.

(c) It may be prescribed as an hypnotic in Fevers, Delirium Tremens, Rheumatism, Gout, Prurigo, &c. It is indicated especially in cases where Opium and Chloral are inadmissible, as in atheromatous degeneration of Arteries, fatty degeneration of Heart, Apoplexy and Nervous Hyperæmia, and when the patient is in a very weak condition, in which case it may be combined with stimulants. As an hypnotic

the dose for adult is from 40 to 60 mins ; and its principal drawback is its nauseousness, and an acrid and persistent after-taste which is principally experienced in the pharynx; this, however can be overcome by the following formula :—

R Paraldehyde mins 30, Sp. Chloroformi mins. 30, Syr.
Aurantii drs. 2, Aquæ ad. oz. $1\frac{1}{2}$. M. Fiat haustus. Horâ
somni sumend.

(2.) *Vomiting*.—Dr. U. B. la Moure recommends Paraldehyde for Vomiting of Pregnancy and Ovarian Irritability. He has also used with much benefit in the *nausea of Migraine*. He gives one drachm doses of a mixture of Paraldehyde 40 mins. and Simple Elixir 1 oz. to be repeated in half an hour if necessary. Here small dose acts as a sedative to m. m. of the stomach, tranquillizing the whole system, and does not act as an hypnotic.

(3.) *Toxicology*.—Animals to whom lethal doses of Strychnia have been given can be resuscitated and all the symptoms of Strychnia intoxication be made to disappear by a large dose of Paraldehyde. It counteracts Strychnia narcosis in doses too small to produce narcosis. When large doses of Strychnia are given, the Paraldehyde narcosis is much more persistent than when the last drug acts alone. Narcosis is very much retarded when both are given simultaneously. An animal poisoned by Paraldehyde cannot be restored to life by giving strychnia, so the antagonistic action is only one sided.

(4.) *Contraindication*.—It is prohibited in cases with inflamed condition of the throat, and gastric irritation or inflammation, on account of its peculiar burning taste experienced in the mouth and pharynx.

Mode of Administration and Doses—40 or 60 mins. to begin with, but this usual dose is often insufficient ; so it should be fairly large, not less than one drachm. and should be repeated in from $\frac{1}{2}$ to 1 hour if necessary, and should be given largely diluted in sweetened water flavoured with ess. of peppermint or tr. aurantii, in the proportion of 50 mins. of Paraldehyde to the ounce of water. Maximum dose is 3 drs. (even 4 drs. sometimes) ; minimum adult hypnotic dose is $\frac{1}{2}$ dr.

It gives an unpleasant odour to the breath so that no one can take it secretly.

PENGHAWAR DJAMBI.

CIBOTIUM BAROMETZ.

Syn.—*Paleœ* or *Pili Cibotium*; *Paku Pidang* (Malay).

Part used.—*The Silky Hairs covering the lower part of the caudex.*

N. O.—*Filices.* *Habitat.*—*Sumatra.*

Characters.—The hairs, found on the Rhizomes and lower portions of the caudex, are silky, about 2 inches long, and of all shades between bright yellow to dark brown.

Therapeutical properties.—Pengkawar has a great reputation in India for its *astringent and styptic properties*; even in Holland and Germany it has been used as a styptic. It was formerly much used but to which interest has again been directed by recent researches. It is a *mechanical or absorbent hæmostatic*, and should be directly applied to a bleeding surface. About 5 or 10 grs. will generally suffice to stop the bleeding from any vessel of not larger diameter than a line and a half. It is useful in bleeding from small vessels, either cut, torn or laid open by sloughing—in some instances even very extensive surfaces—and for plugging. It is recommended to be slightly crushed before using.

PEPSIN.

New Therapeutical Applications. (1.) *Diphtheria*.*—(a.) The application of pepsin to digest away the membrane in diphtheria and membranous croup is more or less commended and resorted to by physicians in the treatment of these diseases. Naturally, however, its utility depends entirely upon its digestive activity, and on account of the many preparations of pepsin of feeble or no digestive power heretofore at the disposal of physicians the results obtained have been in some cases discouraging.

As to the value of pepsin, however, in these affections, when of proper purity and strength, there can be no question. We believe that the recent improvements in pepsin, securing greater purity, strength and permanence (we allude to the *pepsinum purum* in

* Dr. I. N. Love, of St. Louis, in the *Weekly Medical Review*, Jan. 26, 1889, p. 97.

lamellis of Parke, Davis & Co.,) will lead to its extensive use in diphtheria and membranous croup, maladies now attended with such grave results even when combatted by the most expert medical care. (b.)† I have used the pepsin in a number of cases with equally good results. The pepsinum purum pulvis, on account of its solubility, its pasty and adhesive properties, when brought in contact with a moist or dampened surface, gives it an advantage over every other form or make of pepsin, for dissolving diphtheritic membrane. It may be blown through a tube or quill. I claim that by dissolving the membrane with pure powdered pepsin that reabsorption and contamination of the system, of the diphtheric poison is prevented. Patient young man ; 30 years of age. He was attacked with malignant form of diphtheria, engrafted upon an old catarrh. The membrane covered the entire fauces, was thick, ash colored, and leathery ; it was completely dissolved or digested by P. D. & Co's pepsinum purum pulvis in twelve hours time. The catalytic changes commenced almost immediately after the pepsin was applied, it being used in an insufflator.

(2.) *Surgical Cases.*‡—The digestive ferments have only recently attained that state of perfection which enables the physician to use them successfully in the various derangements of the digestive tract, and as a solvent by local application to the diphtheritic. This last use of the ferments suggested to me their use in surgical cases, and for some months past I have been using pepsin in surgical work. Pepsin is best applied in the form known as “ pepsin in scale,” or as an ointment with lanolin as a base :—

R Pepsin, gr. 50.

Lanolin, oz. ss.

M.

The cases cited below will illustrate some of its applications.

1. In ulcerations.

CASE I.—Mrs. T.—had a varicose ulcer of the leg covered with thin adherent membrane, beneath which were weak granulations. Around the ulcer for an area of two inches was an acute

† Dr. A. C. Wilkins, Oskaloosa, Iowa.

‡ H. B. Douglass, M.D.

eczema. The ulcer was foul smelling. Pepsin ointment with cotton dressing was applied. In five days the dressing was removed. The eczematous patch was less inflamed, the discharges not offensive, and the membrane was entirely dissolved. The granulations were healthy. Bismuth was now applied and the ulcer was soon healed.

CASE II.—M. D.—has a large epitheliomatous ulcer (rose cancer) of the neck. The centre of the ulcer is sloughing rapidly. The whole surface of granulations is covered with a membrane. The secretion from the ulcer is abundant and very foul. Pepsin ointment was applied daily to ulcer. In two days the surface of granulations was free from membrane and they looked smaller and red. Wherever the ointment was applied the sloughing ceased, but, from the deeper parts of ulceration the discharge was unchanged.

2. In cicatricial contractions.

CASE I.—D. H. J.—two weeks ago had a periotitis of first phalanx of middle finger with cellulitis of palm of hand. The resulting abscess was lanced in two places. When he came under my observation the suppurative process had left much inflammatory induration in the palm of the hand, extending to the second phalanx. There was a small sinus leading to bare bone on the first phalanx. The patient was unable to flex the finger because the flexor tendon was adherent to its sheath, and could not extend it on account of the cicatricial condition following the abscess. Pepsin ointment was applied to the palm, and the whole covered with a cotton dressing. In three days the sinus had closed and the cicatrix was much softer. After six days the palm was markedly less indurated, and the patient could flex the phalanx completely. In ten days the patient was able to resume his employment as a cutter, and was fully able to hold the knife steadily in his hand.

CASE II.—Mrs. M. W.—had a parotid abscess complicating pyæmia. The abscess opened spontaneously and soon healed. There resulted much induration and considerable thickened cicatricial tissue, extending from the angle of the lower jaw to the zygoma, and from the sterno-mastoid muscle to the border of the masseter muscle. This cicatricial tissue produced ankylosis of the lower jaw on the affected side, so that the patient was enabled to open her

mouth enough to admit solid food. Pepsin ointment was applied twice daily. In one week there was marked improvement in opening and closing the mouth, and the tumor had nearly disappeared. In two weeks there was no trace of the swelling, and movements of the jaw were perfect.

REMARKS:—1. In all ulcerations covered with a slough, or having a membranous base, pepsin is of use to digest this slough and bring about a healthy condition. 2. The efficiency of pepsin ceases when the slough has dissolved. 3. In cicatricial tissue causing ankylosis pepsin is of use by dissolving the cellular element. In this condition pepsin may act similarly to mercury and the iodides, or as a digestive.

PERMANGANATE OF POTASH.

Therapeutical properties.—(1) *Amenorrhœa* : It re-establishes menstrual flow in suppression of that function due to various causes not connected with pregnancy. *Amenorrhœa* characterized by torpor, anæmia and deficient activity of menstrual apparatus, is benefited by it. It is contra-indicated whenever an acute congestion or general sthenic condition exists. It is also indicated in dysmenorrhœa.

Its employment in the treatment of *Amenorrhœa* has, in the hands of Drs. Ringer and Murrell, met with remarkable success. Their experience is recorded as follows :—“Before commencing treatment we inquire carefully into the menstrual history of the patient, and as a rule give the remedy only 3 or 4 days immediately preceding the expected period, but should it fail to produce the desired effect, we direct the patient to continue steadily taking it, and in some cases it has been taken continuously for 3 months. Our most striking results have been obtained in young women between the ages of eighteen and twenty-five, who, from some accidental or trivial cause, such as catching cold or getting wet, have ‘missed’ once or twice after having been regular. The administration of one or two grains of permanganate of potash in pill, three or four times a day, for a few days before the time of the expected period, will bring on the flow almost to a certainty. In some instances the periods were brought on after the patient had ceased menstruating for over a year. In the case of country girls, who have ‘seen nothing’

for a month or two after coming to town, the treatment has answered admirably. Often enough patients do not consult their doctor until they are 'overdue, until the time of the expected period has passed by for some days. Even then the prompt administration of the permanganate will often bring on the flow at once, but should it fail to do so, the treatment ought to be continued, and the patient will probably menstruate normally at the next monthly time. Generally our efforts are not crowned with success until the medicine has been taken for at least three or four days, but in some instances the permanganate acted with striking rapidity, the menstrual flow making its appearance after only two or three doses had been taken. *It is not necessary to discontinue the treatment on the appearance of the menses*; in fact, we generally tell the patient to continue taking the pills three or four days longer, finding that it facilitates the flow. The permanganate often succeeds well after the failure of other remedies, such as iron, aloes, nuxvomica, strychnia, pulsatilla, nitro-glycerine, and hot mustard baths. Sometimes, however, it is necessary to give it for six weeks, or even longer, before the desired result is obtained. In those case where the patient has menstruated only once or twice, and has then entirely ceased for some months, our treatment answers well; the menstrual function is re-established, and thenceforth proceeds normally at every successive monthly period. In some cases there was no actual amenorrhœa, but the flow was scanty, lasting perhaps only a single day, or it may be only a few hours. Here the administration of the permanganate prolonged the flow, and even, in some instances, when it had ceased brought it on again."

(2.) *Gastro-Intestinal Affections*.—In Chronic Catarrh of the Stomach, in which fermentation of Food is apt to occur it is specially indicated. In eructations of gas vomiting of yeasty material and sarcinæ and acid fermentation of starchy and saccharine matters. it is beneficial.

(3.) *Hepatic Derangements*.—In the biliousness due to catarrhal condition of bileducts, manifested by a muddy complexion, yellowness of conjunctiva, high coloured urine and general malaise, the direct result of the presence in the blood of immature material and unoxidised products of retrograde metamorphosis, the Permanganate

is beneficial in several ways ; it checks fermentation and promotes oxidation in tissues undergoing metamorphosis and thus helps to consume products of waste. It is also useful in the *Hepatic Glycosuria*.

(4.) *Uric Acid Disorder*.—Through its influence uric acid, which appears in the urine, is converted into urea and is thus normally excreted. In *Lithæmia* it is just the remedy.

(5) *Diabetes*.—In the cognate affection the *Hepatic form of Glycosuria*, it is also useful. In the *Diabetes of Nervous origin* it has no effect, but when the condition obtains in Obese subjects, in whom the presence of much uric acid signifies an inadequate absorption of certain food constituents and supply of oxygen insufficient to convert uric acid into urea, it is very valuable.

(6.) *Obesity*.—Permanganate is one of the best remedies in relieving or combating certain symptoms in obese subjects. Dr. Bartholow has seen marked advantage from its use in *Dyspepsia and Flatulence* attendant on obesity, and believes it serviceable *as a remedy for an abnormal and excessive deposition of fat*. It is useful as just explained in the Diabetes of Obese subjects.

(7.) *Diabetes*.—In Diabetes of Nervous origin it has no effect. It is indicated simply in hepatic and obese forms of glycosuria.

(8.) *Gonorrhœa and Leucorrhœa*.—The use of an injection of solution of permanganate of potassium is said to be popular with Vienna physicians just now in the treatment of gonorrhœa ; but Prof. Zeissl considers that the use of too strong solutions has been the cause of stricture. He says that in many cases the sixth of a grain in two ounces of water will be curative. The strength should not be greater than 2 grs. in recent cases. The more chronic the case, the stronger within proper limits should be the solution, viz. 2 to 5 grs. to an ounce is the strength recommended in Chronic Gonorrhœa. It is also useful as an injection in leucorrhœa.

(9.) In suppurating buboes, 5 to 10 grs. to an ounce is useful as a dressing.

(10.) *Deodorizer*.—It is a deodorizer of great power, and is a cheap and efficient agent for correcting the odour of Otorrhœa, Ozœna, Fetid Breath, Malodorous Feet-Sweats, fetid sweats of Axilla, and all malodorous discharges of whatever nature.

(11.) *Antiseptic*.—It is indicated internally in the *septic, and morbid states*, and is certainly beneficial whatever view may be entertained of its *modus operandi*. (Dr. Bartholow.)

(12.) *Snake-Bites*.—It is beneficial in snake-bites and to be effective it should come in contact with the wound, or should be injected into the adjacent cellular tissue.

(13.) It is useful in Functional Impotence.

(14.) For further uses *Vide* under *Condy's Fluid*.

(15.) *Contraindications*.—It is interdicted in *phlethoric states* of the system. Its irritant quality also interferes with its administration in cases in which stomach is acutely inflamed.

Mode of administration and Doses.—It is best administered in pills, and to avoid ignition the following are the most recent improved formulæ for preparing them :—

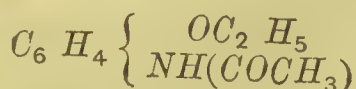
(a.) R. Pot. Permang. grs. 24, Kaolin grs. 2, Lanolini, q. s. M. et. div. into 12 pills or any number. These pills retain their shape and do not decompose if kept for any length of time.

(b.) Another less important basis is a mixture of 2 parts of vaseline with 1 part of paraffin melted together and 3 parts of Kaolin ; and finally the pills dusted over with Kaolin.

(c.) Or, instead of this, as Dr. Snell mentions, if the permanganate be reduced to powder and moistened with a drop or two of water and rubbed up with starch powder, or compound tragacanth powder, it can be readily made into a mass with ext. of gent. which mass also seems to keep unchanged ; if any coating is desired the compound tr. of benzoin answers well.

Dose.—1 to 5 grs. The Permanganate is always to be administered after meals, to prevent its producing pain in the chest which results if given on an empty stomach.

PHENACETIN.



Syn.—*Para-acetphenitidin*.

Characters.—Phenacetin, an analogous with Acetanilide (Anti-febrin), is a white, glossy, crystalline powder, odourless and taste-

less; it melts at 135°C . It is with difficulty soluble in cold water, somewhat better in hot water, and in glycerine, but freely soluble in alcohol, ether, lactic and acetic acids.

Physiological actions.—Phenacetin may be considered a depressor of the excitability of the Medulla oblongata, and its double action, as an antithermic and as an analgesic, results from an effect produced upon the Spinal Cord. The digestive, respiratory and circulatory systems are not at all affected by it. It has been found that Phenacetin acts upon the blood less than Antipyrin and Antifebrin, and that doses of even 60 grs. do not affect the heart or cause cyanosis.

Therapeutical actions.—In the beginning of 1887, Prof. Kast, of Freiburg, and Dr. O. Hinsberg, first drew attention to the antipyretic properties of this substance, and since then it has been proved a *most reliable antipyretic*, and has already obtained a permanent place in therapeutics, and has like all the analgesic antithermics, a *double action—it lowers temperature and soothes pain. But it is above all as an Analgesic that Phenacetin outrivals its predecessor.* While it is as powerful, it is distinctly *superior to Antipyrin and Antifebrin*, as it does not produce nausea, vomiting, collapse or the scarlatina-form rash of the Antipyrin, nor does it give rise to the cyanosis of the Antifebrin (Acetanilid). *However prolonged may be its administration, no bad effect has ever been seen from its use.* Phenacetin, owing to its thus being both an Antithermic and Analgesic without having any unpleasant or toxic symptoms, is considered by several prominent therapeutic authorities, superior to generality of antipyretics including Antifebrine, in all of which these advantages being, as just mentioned, wanting. Before entering into the details of its therapeutical applications, it is important to bear in mind the results of the researches of Drs. Misrachi and Refat, who found that Phenacetin was soluble in Lactic Acid at a temperature of 33° , and this would account for its rapid absorption when administered, since Lactic Acid is usually present in the stomach; so possibly in those cases where phenacetin fails to give relief, the failure may be due to the absence of that acid in the stomach; and the indication would naturally be the addition of little Lactic Acid.

(1.) *Antipyretic*.—Phenacetin is a safe, reliable and effective antipyretic. It can be given at any stage of fever to any kind of patient weak or strong, as it is neither a cardiac stimulant nor a cardiac depressant. It has a decided diaphoretic action when given in cases with high temperature. *The reduction of temperature produced by it is pretty rapid, while the subsequent rise is comparatively much slower*, generally extending over several hours. In fevers, $7\frac{1}{2}$ grs. of phenacetin lowers the temperature by 1.8° to 3.4° F., and the antithermic action following such a dose lasts four hours. In certain cases the apyrexial period is more prolonged even from the same dose. *Large single doses of Phenacetin have a decidedly more energetic effects than small doses frequently repeated*. Even in 5 grain doses it is said to reduce the temperature unfailingly, but the adult dose recommended is from 8 to 10 or 12 grs., the reduction of temperature after such a dose sometimes amounting to as much as $3\frac{1}{2}^{\circ}$ to $4\frac{1}{2}^{\circ}$ F., while even very large quantities (36 grs.) do not produce collapse, nausea, or other of the unpleasant symptoms which other antipyretic agents are prone to occasion. Phenacetin has been administered with advantage in doses of 2 to 12 grs., every 4 hours, according to the age and height of the fever, in cases of continuous and Intermittent Fevers of Malarial origin, Enteric and Rheumatic Fevers, Sunstroke, Pneumonia, Phthisis and early stages of Eruptive Fevers.

(a) *Typhoid Fever*.—Dr. Sommer has used phenacetin with great success in the treatment of typhoid fever, thus confirming the favourable views of its action which have been expressed by Masius and others. The dose employed for adults was four grains, which was repeated from two or four times during the twenty-four hours. Children were given only half this dose. No less than sixty cases were treated in this way, with but one fatal case, about which it is noted that the patient was not subjected to phenacetin treatment until three weeks from the commencement of the attack. In no case were there any serious complications.

(b) *Phthisis*.—It is very useful in reducing the temperature in cases of Phthisis; administered at the time when the temperature is rising, it has the effect of suppressing or delaying the rise.

(c) *Rheumatic Endocarditis and Rheumatism*.—In rheumatic endocarditis Phenacetin acts like a tonic by rendering heart's action steady even where a valvular lesion is established.

Dr. Colischonn, of Frankfurt, has secured satisfactory results by the use of large doses of Phenacetin in cases of rheumatism ; and he no longer employs Salicylic Acid, which is often objectionable on account of unpleasant secondary effects. He himself on one occasion took 120 grm. of Salol in three weeks without any benefit, while Phenacetin, in two doses of 2 grm. each taken in the afternoon was sufficient, as a rule, to promptly relieve an attack of musculo-articular rheumatism in his own person within one, or two days. Of the different varieties of rheumatism he treated with Phenacetin, he gives the following results : Acute articular rheumatism responds most readily to Phenacetin. The febrile varieties are more obstinate, but the most refractory of all are the musculoarticular cases, beginning slowly and depending upon changes of the weather. He recommends at least one trial of Phenacetin in every case of rheumatism, four doses of 0.75 grm. each, or better 1.0 grm. being given during the morning or afternoon, or two doses of 2.0 grm. each may be administered.

(2.) *Analgesic, Antineuralgic, &c.*—The analgesic properties of Phenacetin rival all its predecessors. As an antineuralgic it is unquestionably superior to Antipyrin and more energetic in its action than either Antipyrin or Antifebrin. It has been used for the relief of every form of pain, viz., all kinds of *Neuralgias*, all *Vaso-motor Neuroses*, *Painful Nervous* and *Rheumatic Affections*, in doses of 15 grs. and the effect is observed within 30 to 40 minutes. But it is better to commence always with 8 gr. doses in all painful affections and then to increase the doses if small doses be ineffective, and its use may be continued for a long time without any unpleasant symptoms. In several cases an hypnotic effect accompanies its sedative action, and it has, therefore, been given for *Insomnia* with great effect in several of the London Hospitals.

(a.) *Cephalalgias*.—In simple form of *congestive Headache*, Phenacetin either alone or combined with Pot. Brom. is very effective. But in cases of *Nervous or Neuralgic headache* it is but combined with Citrate or Hydrobromate of Caffeine or Salicylate of Soda. A good combination in cases of *Migraine* is the following :—

R Caffeinae Citr. grs. 15, Phenacetin grs. 30, Sacch. Alb. grs. 15, M. Ft. pulv, 10, Sig. One every 2 hours. In these cases of headache marked relief is often obtained within an hour.

(b.) *Neuralgias*.—All paroxysmal pains in neuralgias are susceptible to its action. It has been found very beneficial in cases of Hemicrania, Occipital, Facial and Intercostal Neuralgias, Sciatica, Lumbago, Cardialgia, Neuritis, and other painful Rheumatic Affections and Neuralgias of different nerves.

(c.) *Nervous Affections*.—Phenacetin is very effective for lancinating pains of *Locomotor Ataxy*, *Hemiplegia*, &c. It has been given with considerable benefit in nervous form of *Polyuria*.

(3.) *Eye Affections*.—It has been tried with success in severe neuralgia depending upon superficial and deep Corneal Ulcers, Abscesses, Iritis, Glaucoma and Purulent Ophthalmia. It has been prescribed with benefit after operation of Iridectomy, Cataract, &c., as a sedative and for any rise of temperature.

(4.) *Whooping Cough*.—Excellent results have been obtained by the employment of Phenacetin in Glycerine, after failure of Antipyrin, Atropine, &c., in following doses :—6 grs. given in four doses, to a child 3 years of age ; 5 grs. in three doses, to a child 2 years of age ; 3 grs. in four doses, of about $\frac{3}{4}$ gr. to a nursing infant about 7 months old.

(5.) *Contraindications*.—There are certain conditions in which Phenacetin, Antipyrin and all other Antipyretics of similar derivatives are inadmissible or contraindicated. They are as follows :—

(1.) In all cases of *Cardiac Weakness*. (2.) *Diphtheritic Affections* in which there is evidence of *Myocarditic lesion*. (3.) *After Exhaustive Hemorrhages*. (4.) *During Menstruation and Dysmenorrhœa*. (5.) In Catarrhal Pneumonia generally and in Lobar Pneumonia when there is *Congestion of the Lungs and Heart failure*. (6.) In the *latter stages* of Tuberculosis. In all cases of great debility and exhaustion and in the *latter stages of long continued Fevers and in Eruptive Fevers as Small Pox, Measles, &c.*, and Bright's Disease. (8.) Lastly, if at all an antipyretic is needed in cases of Rheumatic Endocarditis and other weakened states, Phenacetin should be preferred to other antipyretics, and to be given guarded with stimulants.

Mode of Administration and Doses.—8 to 10 grs. as an antipyretic for an adult, and to be repeated every 4 to 6 hours to control the temperature ; 2 to 4 grs. for children according to age. 12 to 20 grs. as an analgesic or anodyne for an adult. Maximum amount per day for an adult is 45 grs. without any disagreeable effects. No evil effects have followed as much as 60 grs. in 9 hours.

Summary of Comparison between Antifebrin, Antipyrin and Phenacetin:—

ANTIFEBRIN.	ANTIPYRIN.	PHENACETIN.
<ol style="list-style-type: none"> 1 Lowers temperature within an hour. 2 Effects last 6 hrs. (sometimes 10 to 12 hrs.) 3 More Diuretic? 4 No after effects except cyanosis in some cases or from continued use. 5 Cerebral vaso-motor and muscular (?) stimulant. 6 Insoluble in cold water; little in hot water and more soluble in alcohol. 7 Tolerance from continued use. 8 Second in certainty of action. 9 Dose, 5 to 15 grs. 	<ol style="list-style-type: none"> 1 Lowers temperature within half an hour (sometimes within 20 minutes). 2 Effects last between 7 and 20 hours; usually 5 hrs. 3 More Diaphoretic. 4 Depressing after-effects, nausea and vomiting, and urticaria-like eruptions. 5 Cerebral Sedative. 6 Quite soluble in cold water. 7 Tolerance from continued use. 8 First in certainty of action. 9 Dose, 15 to 30 grs. 	<ol style="list-style-type: none"> 1 Lowers temperature within an hour or more, but not earlier than Antifebrin. 2 Effects last 4 hrs. (sometimes more). 3 Moderately Diaphoretic. 4 No cyanosis nor depressing after effects nor vomiting, &c. 5 Cerebral Vaso-Motor Sedative. 6 Insoluble in cold or hot water; but readily soluble in alcohol, lactic acid, acetic acid and ether. 7 Tolerance from continued use. 8 Third in certainty of action. 9 Dose, 8 to 12 grs.

PHOSPHORIC ACID.

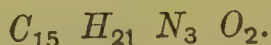
New Therapeutical properties.—(1.) *Ulcers*: A 10 per cent solution of pure phosphoric acid in distilled water is effective as an application to ulcers. The ulcer is covered with a bit of lint dipped in this solution and the dressing is renewed three or four times a day. The patient for a first few minutes feels a slight burning sensation, but this soon passes off. Within 24 hours the ulcer looks clean and better. This treatment is very successful in Scrofulous Ulcers.

(2.) *Tubercular Glands*.—In tubercular glands of neck if there is no fluctuation, Dr. Grossick injects a solution of phosphoric acid into the gland. The gland is reduced in size within 24 hours.

(3.) *Tuberculosis of Joints*.—Tubercular affections of joints are also benefited by injection of 10 per cent of phosphoric acid. First there is pain and swelling after injection, but it disappears within 4 or 5 days. Several cases of suppuration of joints were similarly treated; some were wrapped in solution of acid and the results were successful.

(4.) Solution of phosphoric acid also cures pruritus of *Eczena* and the disease itself gets cured.

PHYSOSTIGMINE.



Syn.—*Eserine*.

Characters and Tests.—In colourless or pinkish crystals, slightly soluble in water, but readily soluble in alcohol and in diluted acids. The aqueous solution has an alkaline reaction, when warmed with or when shaken with dilute solution of potash, becomes red, and when evaporated to dryness over a water-bath leaves a bluish residue, the acidified solution of which is beautifully dichrotic, being blue and red.

ESERINE HYDROBROMATE.

A whitish amorphous powder as met with in commerce, slightly hygroscopic, very soluble in water.

ESERINE SALICYLATE,

In colourless shining needle-shaped, or short columnar crystals. It is a stable salt, soluble 1 in 140 of cold water, forming a colourless

solution, which becomes red in a few days, but does not lose much in efficacy.

ESERINE SULPHATE.

A light brownish amorphous powder, very hygroscopic and soluble in water.

Physiological actions.—A small dose of Physostigmine or Eserine causes vertigo, intense prostration, pallor, very feeble pulse, irregular action of the heart, contraction of the pupil and a loss of power over the muscles. In medium poisonous doses, or when the poison is gradually absorbed, death occurs by asphyxia; when the dose is large, or when the poison is directly introduced into the circulation, death occurs by cardiac paralysis. The asphyxia is not due to palsy of the motor nerves, but to *a reduction and final abolition of the diastaltic function of the spinal cord*, the most characteristic action of the poison. It causes fibrillar twitchings, which continue even after the muscle is detached from the nervous system. It acts as an excitant of the secretory organs, increasing the action of the alimentary, mucous, lachrymal and salivary glands. (Dr. T. R. Fraser).

Therapeutical actions.—*Physostigmine is a powerful Spinal and Nervine Sedative*, possessing antiseptic, decongestive and laxative properties. It has been employed in tetanus and convulsive nervous diseases, atropia and strychnia poisoning, in profuse sweatings and in a large number of diseases of the eye, &c. The hydrobromate or salicylate of eserine is preferable to the sulphate for Hypodermic and Ophthalmic purposes.

(1.) *Hyperhidrosis.*—It has been effectively used in the treatment of excessive sweating in phthisis and from other causes. The dose best adapted for the treatment of excessive sweating is the sixtieth part of a grain, and this may be conveniently made into pilules, one to be taken three or four times during the night. In fifteen consecutive cases in which Dr. W. Murrell gave them he had no failures, although it is hardly likely that this mode of treatment will succeed in every case. (Instead of Eserine or Physostigmine, the extract of physostigma itself was used with the same beneficial results

by Dr. W. Murrell who in a series of experiments extending over two years, found in fifty well marked cases with profuse sweating, "thirty-four were treated with physostigma itself. The preparation was the extract, the dose one-tenth of a grain made into pilules with sugar of milk. In ten cases one pilule only was given at bedtime, and in eight of these the sweating was completely arrested by the fourth or fifth night. Of the two cases of failure one was relieved by two pilules of physostigma at bedtime, and the other by a twenty-grain dose of agaric. In twenty-four cases the physostigma pilules were given three times during the night, and this gave even better results. In most cases the sweating was checked the first or second night, and in every case it had almost ceased by the end of the week. In some cases where there was profuse sweating during the day as well as at night, a pilule was given every four hours. The dose is too small to produce 'untoward effects,' and no hesitation need be felt in repeating it frequently. The sweating once stopped does not as a rule return for three weeks or a month, but at the expiration of that time it is usually necessary to resume the treatment. In two cases in which the physostigma failed to act promptly, Shoemaker's oleate of zinc was used as a dusting powder at bedtime with excellent effect. The oleate should be combined with 1/500 part of thymol; the combination is a pleasant one and succeeds admirably in excessive sweating).

(2.) *Ophthalmic Affections*.—(A) The Salicylate of Eserine being a very soluble and stable salt is preferred to other salts of eserine for ophthalmic purposes. Dr. Macnaughton Jones has repeatedly witnessed the advantages of eserine in the following affections of the eye.

(1.) Obstinate or Chronic cases of Conjunctival and Subconjunctival Congestion; (2.) Phlyctenular and Pustular Conjunctivitis; (3.) Episcleritis; (4.) Vascular corneitis; (5.) Ulcers of the Cornea, viz., Specific and Marginal, Sæmisch's, Perforating and Rodent; (6.) Interstitial Corneitis; (7.) Suppurative Corneitis, Onyx and Hypopyon; (8.) Peripheral Wounds of the Cornea and Wounds at the Sclero-corneal junction; (9.) Recent Anterior Synechia and Posterior Synechia; (10.) Corneo-Iritis (tentatively and temporarily); (11.) Cyclitis and Irido-cyclitis and Choroido-iritis, and sympathetic attacks of same; (12.) Paralytic affection of Ciliary Muscle; (13.) Oph-

thalamoplegia Interna and Externa; (14.) Myopia, with insufficiency of the recti; (15.) Primary Glaucomatous states, Idiopathic and Traumatic; (16.) Hypertension and Intraocular Hypersecretion; (17.) Retinal Hemorrhage, Infarction, Detachment; (18.) Subretinal Effusion, (19.) Optic Neuritis and Papillitis.

(B) He knows of no remedy in ocular therapeutics that yields such striking results as Eserine and these cases are :—

(1.) Deep or External Corneal Ulcers; (2.) Suppuration of the Corneal Cement; (3.) Corneo-Iritis and Episcleritis; (4.) Cyclitis; (5.) Iridocyclitis (Sympathetic); (6.) Wounds of the Ciliary Region; (7.) In Hypopyon combined with Kerotomy or Sclerotomy; (8.) After cataract Operation with tendency to entanglement of the Iris or Corneo-Iritis; (9.) Glaucomatous states; (10.) Retinal congestion, Papillitis, Effusion; (11.) Myopia with or without Paralysis of Accommodation and attended with insufficiency of external muscles.

(C.) Combined with Paracentesis and compress and bandage in perforating corneal ulcers it is very useful. In primary Glaucoma its effect is accentuated by subcutaneous injection of Pilocarpine. It is chiefly in very recent subacute or acute attacks that benefit from eserine is to be hoped for. Solution of 2 grs. to one ounce is sufficiently strong. In cases of secondary Glaucoma, where there are anterior and posterior synechiæ and after operations on the lens, where we dread iritis, Eserine is necessarily contraindicated. The pain and constriction which the patient complains can be obviated by using a *weaker solution* and fresh one and salicylate is better than sulphate of eserine.

(D.) Eserine is a most powerful antiseptic and decongestive, preventing formation of pus in Suppurating diseases of the Cornea and after operation of Cataract when Iris or Cornea shows tendency to suppuration. It is also useful in Ocular Neuralgia, Painful Corneal Ulcers, Scrofulous Ulcers and Wounds on the Cornea, Mydriasis, &c.

(E) In Presbyopia, 1/500 to 1/200 gr. in solution may be dropped into the eye at one time.

(F) Recently it has been used with great success in the treatment of Night-blindness.

(2.) *Nervous Affections*.—Hypod. Injection of 1/64 gr. of Eserine twice a day was successful in 40 cases of Chorea, where it lessened the length of disease. In dose of 15/100 gr. every half hour, then at longer intervals, with ice-bag to the spine and a dose of morphia at night has been found beneficial in Tetanus; or it may be given hypodermically in doses of 1/32 to 1/12 gr. Eserine is also useful in Epilepsy, and for arresting muscular wasting and improving muscular power in cases of Paralysis.

(3.) Internally administered, Eserine relieves *constipation* due to atony of the muscular walls of the intestines, bronchitis and dyspnoea due to bronchial weakness.

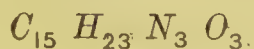
(4.) *Toxicology*.—It is an antidote to Atropia and Strychnia poisoning and has been given hypodermically to counteract their poisonous effect.

Preparations and Doses.—(A) Eserinæ or Physostigminæ Sulphas, 1/60 to 1/20 gr. increased to 1/12 gr. internally.

(B) Eserinæ Hydrobromas and E. Salicylas, same as Sulphate.

(C) Inj. Eserinæ Salicylatis Hypod. (1 in 160), 1 to 6 mins. Usual Hypod. dose, 1/100 gr.

ESERIDINE.



Characters.—Eseridine in chemical composition closely approaches its congener eserine, into which it may be transformed under the influence of heat and weak acids. It is a white crystalline powder, which, however, can be got in large transparent crystals; the fusing point is 270.6° F., and it is slightly soluble in ether.

Physiological actions.—From a series of interesting experiments made with it on animals it has been found that, according to the size of the dose, there is first excitement, then progressive paralysis of the brain and the medulla oblongata, the vomiting, respiratory and cardio-inhibitory centres being successfully affected. From irritation of the pneumogastric centre there is marked increase of

the peristalsis of the stomach and intestines, inducing very abundant mucous discharges.

Therapeutical actions.—(1.) As a consequence of above mentioned physiological results, Eber recommends Eseridin especially in veterinary practice, as a stimulant to the stomach and intestines and to the brain and spinal cord. In medicinal doses it produces marked diarrhœa, without any appreciable action on the nervous system. Its poisonous dose is sixteen times larger than that of Eserine, while it acts as a reliable laxative in therapeutic doses. It is free from the cumulative action of Strychnine. The doses employed for a horse were about $1\frac{1}{2}$ grs. ; for a cow 3 grs.

(2.) It is contraindicated in all diseases of the brain or spinal cord and in parenchymatous disturbance of the heart.

PHYTOLACCA DECANDRA.

Syn.—*Poke Root, Garget, Scoke, Pigeon Berry, Coakum, &c.*

Parts used.—*The Root, Fruit, and Leaves.*

N. O.—*Phytolaccaceæ.*

Habitat.—*United States.*

Characters.—A perennial plant, with alternate, entire, exstipulate leaves and perfect racemose flowers. The root is, large, conical branched and fleshy ; mostly in transverse or longitudinal slices, wrinkled, grayish, hard ; fracture fibrous, the wood bundles in several distinct, concentric circles ; inodorous ; sweetish, acrid. The fruit is a dopedressed-globular, dark purple, compound berry, about one-third of an inch in diameter, composed of ten carpels, each containing one lenticular, black seed ; juice purplish-red ; inodorous ; sweet, slightly acrid. The root contains resinoid, *Phytolaccin*.

Physiological actions.—Poke root acts on the whole glandular system, having a specific influence on the m. m. of the stomach, bowels and rectum, (particularly the latter). In large doses it produces a tingling and pricking sensation over the whole surface of the body, and intoxication. In overdoses it produces violent vomiting and purging, followed by coma and death.

Therapeutical actions.—Poke root has alterative, anti-scorbutic, anti-syphilitic, anti-herpetic, deobstuent, discutient, diuretic, hepatic stimulant and slightly narcotic properties, and in larger doses is emetic and cathartic. The berries are stimulant, sudorific and pectoral; the ripe berries made into a tincture with brandy have been used as a popular remedy in *chronic rheumatism and syphilitic affections*. The young shoots of the plant boiled in water are eaten in the United States as Asparagus, or as a Salad, and are innocuous. The root is beneficially employed in cases of rheumatism, scrofula, syphilis, salt rheum, itch and other cutaneous affections, glandular diseases, as tuberculosis of the liver and spleen, &c., hepatic torpor, hemorrhoids, ulceration and fissure of the rectum, prolapsus ani, &c.

(2.) *Orchitis, Epididymitis, Mastitis, &c.*—Internally it is very useful in *Orchitis*; at the same time, a salve made of extr. of phytolacca with extr. of belladonna, and rubbed on the inflamed part in *Orchitis*, acts very efficiently. It is similarly beneficial in *Mastitis*. In *inflamed and painful mammae* 10 drop doses of fl. ext. should be administered every 2 hours until relief is obtained; in addition, the above mentioned salve should also be applied on the *mammæ*. It is also useful in *Epididymitis*.

(3.) Externally the powdered root is an useful application in chancre, and as a poultice applied to the feet, is good for ardent fevers. The juice of the leaves rubbed upon a cancerous tumor is said to remove it.

(4.) Lastly it is useful for granular conjunctivitis, diphtheria and tonsillitis.

Preparations and Doses.—Powdered Root, 1 to 5 grs. as an alterative; 10 to 30 grs. as an emetic. Berries, 10 to 40 grs.

Fl. Ext., 5 to 30 mins; Solid Ext., 2 to 5 grs.

Phytolaccim (concentration), $\frac{1}{2}$ to 2 grs.

PICHU.

FABIANA IMBRICATA.

Syn.—*Piche, Pichu.**Parts employed.*—*The Stems and Leafy branchlets.**N. O.*—*Salanaceæ. Suborder—Curvembrice, and tribe Nicotianæ.**Habital.*—*Chili.*

Characters.—A plant with broadly ovate, barely-pointed, thick leaves, a line long and closely imbricated upon minute branchlets densely crowded, their bases and margins whitened with the resinous deposit; the branchlets are terminated in the second year by the solitary flower. The calyx is free, but closely investing the ovary, to which it adheres by the resinous matter with which the plant abounds, green becoming yellowish, thick and glandular, short and open bell-shaped, the fine oblong and obtuse lobes appearing white-margined by the circle of white resin glands which surround the corolla at this point. *The general appearance of the shrub is striking, and it would attract the attention of any one interested in observing plants. Its plume-like sprays, with their peculiar light, bluish-green color, present a rather pretty appearance against the sky, although the shrub is somewhat straggling; more so here than in the south, where it becomes a small tree. Handling it, I was astonished by the great amount of resin with which all of its tender parts are covered. This bluish or greenish-gray resin is the striking peculiarity of the plant, appealing to the senses of sight, touch, taste and smell. Much of it is quite dry and brittle, and forms a grayish powder in the bottom of the mortar when the drug is pounded. It exists to some extent in the wood of some of the smaller branches, and is traceable even in the older wood. The wood has a uniform yellowish-white color, and is heavy, moderately hard, and fine-grained. The bark, abounding in resin, is of a perfect ashen gray, and finely toughened by minute, short, sharp, thickly-set longitudinal ridges, and minute gland-like protuberances, both of which exhibit, under the lens, a peculiar resinous lustre

*Henry H. Rusby, M. D. Ph. G., Curator of the Scientific Department of Parke, Davis and Co.

Chemical Composition.—Pichi contains (a) a minute quantity of some alkaloid, capable of forming crystallizable, bitter salts. (b) A neutral, crystallizable principle. (c) A fluorescent body (perhaps more than one) closely resembling æsculin. (4) Volatile oil. (5.) A bitter resin, probably complex in composition, present in great abundance.

Therapeutical properties.—(1.) Pichi is diuretic (?), tonic and terebinthinate. It enjoys a great local reputation in Chili in the treatment of urinary diseases. Pichi is especially efficacious in the diseases of the urinary apparatus and of the liver. In case of vesical catarrh, acute or chronic, following a mechanical cause, such as gravel or calculus, or a uric diathesis, this remedy will quickly modify the urinary secretions, calm the irritability, and favor the expulsion of the gravel and calculi that can be passed through the urethra. It modifies and cures also *chronic purulent mucous secretion*. Its action on affections of the *liver* must be attributed to its diuretic properties, though it is recommended for *icterus*, *hydropsy*, and *dyspepsia due to insufficient biliary secretions*. In this case the essential oil, when absorbed and carried into circulation, acts like a stimulant of the secretory apparatus in general, but the specific action of pichi is directed without doubt upon the organs of the urinary apparatus. It is used in the shape of a fluid extract, in a dose of from 4 to 6 spoonfuls per day, in cold water or warm.

(2.) *Affections of the Urinary Organs.*—Pichi has been beneficially employed by several physicians in the treatment of catarrhal inflammations of the urinary tract, but not adapted to use in cases of organic kidney disease; has been also found useful in cystitis produced by mechanical irritation of gravel or calculi; and in cases of acute or chronic cystitis,* rectal and vesical tenesmus, resulting from various causes, as operation on the urethra for stricture, plastic operation on cervix uteri, neglected retention of urine, following accouchment, continued use of catheter, chill, &c. It was given in 15-drop doses of the fl. ext.

Dr. Dujardin-Beaumetz says: "I have studied pichi clinically and I have found it to possess good diuretic properties, useful in vesical catarrh.

* Hal C. Wyman, M. D., Surgeon West End Dispensary. Detroit, Mich.

(2.) *Lumbago, Sciatica, and Lithiasis.*—It might enumerate numbers of cases of lumbago and sciatica in the course of which urates were precipitated from the urine in large quantities, and which recovered while the patient was taking the pichi. Combined with a potassium salt I have found it to act more quickly than any other remedy in bringing about a solution of the urates and relieving the rheumatic neuralgia so frequently associated with that unstable condition known as lithuria, phosphatism, etc. A formula I have often used is :

R. Fl. ext. pichi, oz. 1.

Potass. nitrate, dr. 1.

Simple elixir. oz. 3. M.

S.—Teaspoonful once in two hours.

(3.) *Calculus.*—As regards the *modus operandi* of the beneficial effects of pichi on urinary calculi, Mr. Limousin says, from the chemical examination which he has made of it, that the presence of large proportion of resin contained in it, disintegrates the calculi by dissolving the mucin that keeps their particles together; it facilitates their expulsion in the shape of a harmless pulp, but it is not very probable that the uric acid is dissolved. He communicated the interesting experience of an old Peruvian general, who through the use of pichi had avoided a painful operation with which he was threatened by his surgeon, who expected to relieve him of a large calculus of the bladder. A decoction of pichi taken during several weeks had dispelled the inflammatory phenomena and given a normal appearance to his urine; at the same time the calculus was reduced to fine gravel and had gradually passed away through the urinary channel.

According to mention by Ruiz et Pavon (cited by Prof. Planchon. in the March session of the Pharmaceutical Society), the peasants of Chili employed the drug empirically long ago to combat inflammation of the urinary tract, and considered it as a sovereign remedy to dissolve and disintegrate calculus in the bladder.

(4) *Contraindication.*—Its use is prohibited where destruction of the tissue degenerative changes have taken place; it should,

therefore, not be given in Albuminuria, as it is liable to produce harmful effects.

Preparation and Dose.—Fl. Ext., 10 to 40 mins.

PICRASMA QUASSIOIDES. *Benn.*

Syn.—*Brucia (Nima) quassioides*.

Part used.—*The Bark and Wood.* *N. O.*—*Simarubaceæ*.

Habitat.—*Sub-tropical Himalaya and China.*

Characters and Chemical Composition.—It is a small tree, bearing edible red drupes. The bitter bark and wood of this plant have been investigated recently by Drs. Dymock and Warden. The microscopic character of the wood is found to agree very closely with that of Quassia and on chemical examination it yields, (1) a crystallizable principle, believed to be quassin; (2) a bitter resin-like substance with marked green fluorescence; (3) a non-crystallizable, bitter, resinous body, and (4) a pungent, slightly bitter and acrid alkaloid.

Therapeutical properties.—The bark has been recommended by Macardieu as a *febrifuge* and forms a good substitute for Quassia in cases for which the latter has been employed. The leaves are said to be used in the Punjaub to cure *scabies*.

Preps. and Doses.—Nearly same as Quassia.

PIX LIQUIDA.

TAR.

Therapeutical properties.—Tar acts both internally and externally as a stimulant; it influences the mucous membrane when given internally, and has been found useful in chronic brouchitic affections and diseases of the m. m. of the air passages. For Catarrhal affections of Subacute and Chronic character the following is a specific :—

R. Picis Liq. grs. 15, Benzoini grs. 15, Pulv. Doveri grs. 15. M. et ft. pil. 10. Sig. one pill t. d. between meals.

The vapour of tar is also used with advantage in chronic bronchitis and phthisis. Tar is also useful internally in chronic complaints of the urinary passages. It is useful in certain chronic skin diseases as Psoriasis, Eczema, Lepra and Pityriasis Rubra. In some cases of invertebrate psoriasis it may also be given internally. An ointment composed of

Ung Picis Liq. oz. $1\frac{1}{2}$, Ung. Cetacei oz 1, Ung. Hydrag. Nitr. oz. $\frac{1}{2}$, is useful for Lepra, Psoriasis and Chronic Eczema.

Fomulæ for the Administration of Tar.

Mr. MAGNES-LAHENS gives the following very full list of preparations of tar :

1. *Tar Powder :*

Tar 1 part. Fir-, or Pine-sawdust... 2 parts.
Mix intimately and keep protected from the air.

2. *Tar Bath :*

Tar-powder ... $\frac{1}{2}$ pound. Warm water ... 36 gallons.

3. *Tar-water, dilute :*

Tar-powder ... 135 grains. Water at 60° c. ... 1 quart.
Infuse in a close vessel ; when cold, strain.

4. *Tar-water concentrated :*

Tar-powder ... 1 ounce. Water at 60° C. ... 1 quart.
Infuse as before. For external use.

5. *Tar-wine : (a)*

Tar-powder ... 5 drachms. Madeira (or other
generous wine) 1 quart.

Macerate and filter. Dose, a small wineglassful.

Tar-wine : (b)

Mr. Chas. A. Heinitsch, of Lancaster, Pa., recommends to prepare this, either by triturating $1\frac{1}{2}$ troy oz. of tar with $\frac{1}{2}$ troy oz. of magnesium carbonate and 1 pint of sherry wine, and afterwards filtering ; or by adding 8 troy oz. of tar to 3 pints of beer, and separating the clear solution from the sediment after 24 hours.

6. *Tar-syrup* :

Tar-water, concentrated 1 part. Sugar 2 parts.

Dissolve the sugar in the tar-water in a closed vessel at a gentle heat, and strain. Dose, a tablespoonful.

7. *Tar-lozenges* :

Tar 50 parts. Gum-arabic, powdered 12 parts.

Honey 5 „ Tar-water concentrated 18 „

Marshmallow-root, powdered 90 parts.

Make a mucilage with the gum, honey, and water ; incorporate with it the tar. and afterward the marshmallow, and form the mass into 1,000 pills, or dragees, which are to be coated with sugar. Each contains 0.05 gm. (7-10 gr.) of tar.

8. *Tar-elixir* :

Tar 50 parts. Sugar 100 parts.

Alcohol, 60 per cent 1,000 parts.

Dissolve and filter.

9. *Tar-glycerole* :

Tar 10 parts. Glycerine 15 parts.

Yolk of egg, ... 15 „

Mix the yolk of egg with the glycerine in a mortar, and incorporate with it the tar.

10. *Tar-poultice* :

Strew tar-powder upon a flaxseed-poultice.

In addition to these some formulæ are given for tar inhalations, fumigations, and embrocations, which it is not necessary to specify more fully.

PLANTAGO ISPAGHULA.

SPOGEL SEEDS.

Syn.—*Isapghol* (Bom.); *Uthami jirun*, *Upatu jirun* (Guj); *Ispaghola* (Hind); *Eshopghol* (Beng.); *Ishappukol-virai* (Tam); *Baze-i-Katuna* (Pers.)

Part used.—The seeds.

Habitat.—Persia.

Characters.—The seeds are well known to all the natives of India. They are boat-shaped, very small in size—about $\frac{1}{8}$ inch

long and about $1/16$ inch broad, translucent, white with a pinkish tint and having a brown ridge on its convex side; its concavity is deeply channelled and is covered with a thin white membrane. There is a brownish coloured scar in the centre. They are odourless and when soaked in water they become covered with a large quantity of mucilage which has a simple mucilaginous taste.

Therapeutical properties.—The seeds are emmollient, demulcent and diuretic and are useful in Catarrhs, Dysuria and Renal affections, but it is to their use in intestinal affections that Surg. Maj. E. T. Waring calls particular attention. In the *chronic diarrhœa of Europeans*, who have been long resident in India, it is found to answer better than any other remedy. It also cured diarrhœa of Europeans and children after many other remedies had failed. The dose of the seeds for an adult is drs. $2\frac{1}{2}$ with dr. $\frac{1}{2}$ of sugar candy. They are administered whole and in their passage through the intestines, they absorb as much fluid as makes them swell and by the time they reach the lower and central portions of the canal, they give out as much amount of bland mucilage, and this they continue to do until they pass over the whole of the entire canal. They are also largely used, by the natives all throughout India, in cases of dysentery and chronic diarrhœa. The crushed seeds are made into a paste with vinegar form a cooling lotion for the head in ardent fevers. They are also useful internally in gonorrhœa and scalding during micturition.

Dose.—2 to 4 drs.

PLANTAGO LANCEOLATA.

PLANTAIN.

Part used.—The Leaves. *N. O.*—*Plantaginaceæ.*

Habitat.—Europe and United States.

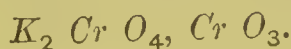
Therapeutical properties.—The Leaves possess *astringent and styptic properties*. Its styptic properties are regarded by Dr. Quinlan as partly mechanical and partly physiological; the latter effect was known by the juice causing a tendency to stasis in the capillaries of the tail of a gold fish, examined with a micros-

copie power of 400 diameters. It is not a member of the tannin series.

Dr. Quinlan had seen the chewed leaves successfully used to stop a dangerous hemorrhage from leech bites in a situation where pressure could not be employed. This herb is also highly spoken of by Culpepper and other old writers as a styptic, and alluded to as such in the plays of Shakespeare, but its employment seems to have died out. The preparations he used were the dried leaves, and powdered leaves prepared with glycerine for external use, the juice preserved by alcohol, as also by glycerine for internal use, and a green extract. The juice in large doses has been found by him useful in internal hemorrhages, as hemorrhoidal flux, menorrhagia, &c., and in leucorrhœa.

Prep. and Dose.—Fl. Ext., 30 to 60 mins.

POTASSÆ BICHROMAS.



Therapeutical properties.—The action of bichromate of potash is directed towards the respiratory passages, alimentary canal, the liver, kidneys, skin and bones. It therefore has been used with success in scrofulous eczema, farcy, digestive disorders, marasmus and syphilis. In doses of $\frac{1}{4}$ gr. daily it is useful internally in certain forms of dyspepsia, chronic intestinal catarrh and syphilis. Polypi of the nose, after repeated removal with the forceps, will often yield to the topical application of a snuff composed of 9 parts of sacchari lactis with 1 part of powdered bichromate. It is beneficial in hay asthma. As a gargle containing 2 grs of the bichromate to an ounce of water with half an ounce of glycerine, it is used in acute ulcerated sore throat as well as in cases of indolent enlargement of the tonsils.

Dose.—gr. $\frac{1}{3}$ to gr. $\frac{1}{4}$; gr. $\frac{3}{4}$ per day; the dose should not exceed $\frac{1}{4}$ gr. as sometimes even a $\frac{1}{5}$ gr. as a single dose produces a violent emesis.

POTASSÆ CHLORAS.

Practical Uses.—(1) *Affections of the Circulatory System*: In affections of the circulatory system, in *palpitations of the heart* and other *large vessels*, when combined with Iron, most salutary results have been experienced, for by increasing the plasticity of the blood, deposition of fibrin, on inner surface of the heart and coats of vessels, takes place, and consequently the walls of heart and vessels are strengthened.

(2.) *Affections of the Respiratory System*.—It is highly useful internally in *simple Catarrh of the Nares* and in *simple and chronic Catarrh of the Larynx*. It is markedly beneficial in *Phthisis*; and in *Croup and Diphtheria*, it should be given in decided doses of 5 to 30 grs. from three to four times a day. Besides its internal use in *Diphtheria* and *Phthisis*, a solution of 1-2 drs. of Pot. Chor. to $\frac{1}{2}$ pint of water should also be employed as a gargle.

(3.) *Diseases of Infants and Children*.—In *Tabes Messenterica* the chlorate has a powerful effect, and in the *Diarrhœa and Dysentery of children* when given by the mouth and by enema, the most satisfactory results have been obtained. It is markedly beneficial in *Phthisis* and *Marasmus* of children; 1 to 3 grs. given three or four times a day are very useful. The infants fatten on its use when given together with good food. In the *Eruptive Fevers*, full and frequent doses will often bring out an abundant crop of eruptions.

(4.) In *Ozœna*, a douche containing one dr. to a pint of hot water, effectively cleanses and disinfects the parts.

(5.) *Affections of the Mouth and Throat*.—It is useful in *Mercurial Salivation* and *Ulcers of the mouth*; dr. 1 to a wine-glassful of water as a gargle often relieves the dry, red and follicular ulceration of the mouth and throat; and in *ulceration of the tongue* either alone or in combination with astringents it does more good than any other remedy. In *Epithelioma* and *Cancroid* affections of the mouth its efficacy as a lotion is acknowledged.

(6.) In the subacute and chronic stages of *Otorrhœa* an injection of 5 to 10 grs. to an ounce of water is often effective.

(7.) In *Erysipelas* it is most valuable particularly if combined with Tr. Ferri Perchl.

(8.) *Genito-Urinary Affections*.—(a) In *Leucorrhœa* a lotion of 1-2 drs. to a quart of water lessens discharge and relieves congestion. (b.) In *Gonorrhœa*, an injection of 5-10 grs. to an ounce very often completely arrests discharge. (c) In *chancres* it is applied either in solution or dusted over the parts.

(9.) *Affections of the skin*.—In diseases of the skin, which are characterized by debility and a dyscrasis of the blood, the salt is a most potent remedy. It also possesses the power of lessening the tendency to suppuration in various diseases of the skin:—

(a) In *Acne Punctata*, an ailment so intractable and troublesome to fair sex, it has been prescribed with unvarying success. The remedy when given internally has a controlling power in the sebaceous glands and follicles and prevents the usual progress towards suppuration. (b) In *Acne Rosacea* the salt seems to combat the enlargement of the blood vessels and congestion of the skin on which the disease depends. (c) It is useful in *Pustular Acne*. (d) For *Tinea Tarsi* and *Porigo Favosa*, full doses of Chlorate of Potash, about a drachm per day for a child, acts like a charm, even in severe cases. It renders the scalp shaving, poulticing, &c., usually adopted in the latter case, quite unnecessary. (e) It is equally useful internally in *Ecthema*, *Erythema Nodosum*, *Eczema*, *Impetigo*, *Purpura*, *Lupus* when of *Scrofulous* origin, *Sycosis*, &c., lessening the tendency to suppuration in most of these cases. (f) In *Pustular Eczema*, a solution of 1-2 drs. to a pint is beneficially applied on muslin to the parts.

(10.) In *Boils*, *Carbuncles* and *Styes* it is efficacious when administered internally, lessening the tendency to suppuration.

(11.) In *Canchroid* it acts beneficially either in solution or dusted over the parts, as also in obstinate and chronic ulcers and gangrenous sores discharging fetid secretion.

POTENTILLA CANADENSIS, P. SARMENTOSA.

Syn.—Cinquefoil ; Fivefinger.

Part used.—The Plant. *N. O.*—Rosaceæ.

Habitat.—United States.

Therapeutical properties.—It has astringent and tonic properties. It is very useful in night-sweats of Phthisis and succeeds when Atropine and other remedies have failed ; pour boiling water on a handful of the vine, leaves and root, and let patient drink ad libitum. It is also useful in diarrhœa and dysentery. Locally as a gargle for spongy and bleeding gums.

Preps. and Doses.—Powdered Plant, 20 to 60 grs.

Fl. Ext., 10 to 60 mins.

PROTAGON.

Syn.—Cerebrin.

Characters and Chemical Composition.—The substance now understood by histologists consists of Albumen associated with a combination of Glycerine, Oleine and Hypophosphorus Acid. If phosphorus be subjected to the alembic of the system, in which nitrogenous elements abound, the result will be the tribasic variety of hypophosphorus acid—the formula found in the brain, blood and nerve structure. If phosphorus be decomposed in the presence of a nitrogenous body by oxygen, or by the biniodide of nitrogen alone, a tribasic variety will be produced identical with that found in the human organism.

Histology and Pathology.—In animals of great strength it is found in great abundance in the blood, nerve structure and cerebellum, and as we ascend in the scale in intelligence, does it relatively increase in the cerebrum, especially in the anterior lobes. In mental imbecility there is a comparatively small amount found in the cerebrum, especially in the grey matter of the brain ; and similar results are also obtained in paresis cerebri and progressive locomotor ataxia, while in spinal paralysis the spinal cord alone evinces the deficiency. In tubercular-phthisis, the brain, in the aggregate, contains very nearly the average quantity ; but the base of the brain, cerebellum, organic nerves, and

the blood are often bereft of 50 per cent. of the normal amount. But the blood is the most evident seat of aberration, being quite deficient in the hypophosphite, while its place is supplied with an oleo-phosphate, although in a much smaller amount.

Therapeutical properties.—Protagon is regarded as a very interesting and important compound—one sustaining an immediate relation to life, health and disease. All recent investigations tend to confirm the claim that it is the food of the brain, and the medium by which life and the spirit animate the tenement of clay, that it is concerned in all the phenomena of vital functions, is the source of nerve-power, and the supervisor of organic life; that upon its adequate supply and proper formula is reposed the natural play of all animal organs, and if these be deranged, disease and death will follow. Moreover, we find, if it be furnished to the victim of its loss from the brain of animals, or manufactured artificially, we have an agent without a parallel in the realm of therapeutics in arresting those diseases, dependent upon or growing out of its deficiency. It is found to be a very beneficial agent in the treatment of *tuberculosis*. * May it not be that inflammatory conditions of the blood decompose the normal hypophosphite into oleophosphate; and may it not also be that in this modification of the phosphorus oxide that the blood becomes altered in its constituents, and the leucocytes become diseased, die, and constitute the body we term tubercle? There are potent reasons for believing this is so. Here I cannot discuss them, but I may remark that the pancreatic deficiency so strongly urged by Dobell, the acid condition of the small intestines cited by Bennett, the impaired organic nerve-power as claimed by Copland, are but manifestations of deranged life-force, and no doubt have their origin in a deficiency of hypophosphite of oleine in the blood, the medulla oblongata, the base of the brain, and in the nerve structures. This conclusion is not arrived at on mere theoretical grounds, neither are the clinical data so limited as to justify the sneer of being a mere coincidence. I have now used the hypophosphite of oleine obtained from the brain of the cow, as also that obtained by decomposing phosphorus, dissolved in oil and mixed with beef-juice, by dry oxygen under heavy pressure, over a period of eighteen years; and so uniformly successful have the results been that I have learned to

* Charles G. Polk M. D.

regard it as an agent of especial efficacy in tubercular consumption and other chronic diseases attended with decided debility. But as it has generally been associated with cod-liver oil, iron, quinia, strychnia, and phosphoric acid, it has often been difficult to determine how much good accrued from each individual agent. I am sure, however, of one fact : cases generally did badly, in which neither the hypophosphite of oleine, nor the hypophosphite of iron, quinia and strychnia were used ; but those in which the hypophosphites were used, especially the hypophosphite of oleine, generally improved, and in nearly all cases which came in my hands before extensive lung disintegration had ensued, recovered. In the last four months I have witnessed three cases recover under every unfavourable circumstances, and these have confirmed in my opinion the efficacy of this agent beyond peradventure.

CASE I.—Miss A. M. P., of Delaware, has been a patient of mine for four years. This lady, forty-three years of age, had been in ill-health nearly twelve years ; has had cough, diarrhœa, night-sweats, and four months ago was emaciated to a mere skeleton. Heretofore she refused to take the hypophosphite of oleine, on the plea that it sickened her stomach and increased the diarrhœa ; but finding herself nearly approaching the grave, she agreed to try it once more. I prescribed the following :

Protagon (from the brain of the cow)	drs.	6.
Alcohol	oz.	1.
Oil of Eucalyptus	drs.	2.
Cod-liver Oil (Norwegian) ...	ozs.	3.

M. Take a dessertspoonful twice daily.

The purpose of the oil of eucalyptus was to cover the taste of the cod-liver oil, which it does effectually. Under the above treatment the diarrhœa and night-sweats disappeared, her appetite returned, digestion became excellent, and to-day she is visiting my house, declaring herself entirely well. She is fleshy and the very picture of health.

CASE II.—Albert M., aged twenty-four, bookkeeper in a wholesale drygoods house of this city. His family record is bad, several of his relatives having died of phthisis. Last May he contracted a cough from exposure to a severe rain-storm, and then sitting several hours at his desk. June 28, 1876, he placed himself under my care ; he had

considerable soreness over the apex of the right lung, dull sound on percussion and impaired vesicular murmur, free albuminous expectoration, night-sweats, total disgust for all fatty articles of food, and had had several slight hemorrhages. I ordered for him the prescription mentioned above, and sent him into the interior of this State. In six weeks he returned very much improved, apparently about well; but after resuming his avocation in the counting-house, he again grew worse, the expectoration becoming purulent and very abundant, and night-sweats returned. At present, November 1st, he is gaining flesh, seems to be growing corpulent, and has no indication of ill-health, except a trifling cough. During the treatment of the last case I was unable to obtain the hypophosphite of oleine for two weeks, and notwithstanding the weather was favorable for him, he began growing worse without it, but improved as soon as it was restored to the cod-liver oil, which he took from the beginning and will continue to take until the last vestige of pulmonary trouble shall have entirely disappeared. Could the same results have been obtained by other well known agents? I doubt it. In the first case, a large amount of cod-liver oil had been taken without decisive benefit, and the second seemed to miss the hypophosphite of oleine as soon as it was withdrawn, although he continued taking cod-liver oil.

Professor Percy, of the New York Medical College, says he has observed great benefit in numerous cases of deteriorated health from the use of this compound.

PRUNUS VIRGINIANA.

PRUNUS SEROTINA (*Ehrhart*), CERASUS SEROTINA (*Loiseleur*).

Syn.—*Wild Cherry, Black Cherry, &c.*

Part employed.—*The Bark.*

N. O.—*Rosaceæ, Sub-Ord. Amygdaleæ.*

Habitat.—*United States.*

Characters and Chemical Composition.—The bark is taken from any part of the tree, but preferably from the root. It occurs in curved pieces or irregular fragments, one-twelfth of an inch or more thick, outer surface yellowish-brown or of a lively cinnamon colour, smooth

and somewhat glossy, marked with transverse scars; inner surface somewhat striate or fissured. Upon maceration in water it develops a distinct bitter-almond (prussic acid) odor; taste astringent, aromatic and bitter. It contains tannic acid, bitter extractive, amygdalin (a nitrogenous crystallizable bitter glucoside) and emulsin, an albuminous principle. When amygdalin in watery solution is brought in contact with emulsin, it is decomposed, forming hydrocyanic and formic acids and a colourless, thin, volatile oil, which, when pure has a peculiar agreeable odour and a burning taste.

Physiological actions.—It acts as a sedative to pulmonary circulation, reduces congestion, subdues inflammation and gives tone to the pulmonary tissues. It diminishes nervous excitability, and in large doses slows the action of the heart from its containing hydrocyanic acid.

Therapeutical actions.—(1.) The medicinal virtues of Wild Cherry are due to its natural constituents *Hydrocyanic Acid* and an astringent principle allied to *Tannin*. It possesses nervine sedative, sedative expectorant and stomachic tonic properties. It combines the virtues of a tonic, with the power of diminishing *nervous excitability*, and is therefore best adapted to the treatment of those diseases in which a debilitated condition of the stomach is associated with general or local irritation.

(2.) It is an excellent stomachic tonic, which may be used instead of calumba. It is also used in diarrhoea and dysentery as a sedative and mild astringent.

(3.) *Pulmonary Affections.*—It has been prescribed in Colds, Bronchial Catarrhs, Nervous Cough, Consumption and Typhoid Pneumonia. It forms a best adjuvant in cough mixtures.

(4.) *Cardiac Affections.*—It is very useful in palpitations of the heart. Dr. Clifford Allbutt reports many interesting cases of mitral reflux and of dilatation with urgent dyspnoea, also of cardiac debility with anæmia, &c., benefited directly by *Prunus*.

(5.) Lastly, it is serviceable in hectic and bilious fevers, fever and ague, debility and involuntary discharge of urine. Hot water destroys its sedative powers.

Preparations and Doses.—Fl. Ext., 30 to 60 mins.

Inf. (Pd. Bark oz. $\frac{1}{2}$, Water pint 1),
1 $\frac{1}{2}$ to 2 fl. drs.

Syrup. (Pd. Bark 5, cold Water 16 :
infuse 4 hrs., then percolate, make up
to 16, add sugar 28, and shake till
dissolved), 2 to 4 fl. drs. A most
agreeable and effective vehicle for
cough mixtures.

Tr. (1 to 5 Pf. Sp.), 20 to 60 mins.

Prunin (concentration.), 1 to 3 grs.

PULSATILLA.

ANEMONE PULSATILLA, A. PRATENSIS, PULSATILLA VULGARIS.

Syn.—*Pasque Flower*; *Coquelarde* (Fr.); *Kiichenschelle* (Ger).

Part employed.—*The Flowering Herb.*

N. O.—*Ranunculaceæ.* *Habitat.*—*Europe.*

Characters and Chemical Composition.—The herb collected soon after flowering, should be carefully preserved and not be kept longer than one year. Leaves radical, petiolate, silky-villous, twice or thrice deeply three-parted or pinnately cleft, with linear, acute lobes, appearing after the large, purple flowers; inodorous, very acrid. It contains *Anemonic Acid* which is inert and *Anemonin* (*Pulsatilla Camphor*) which is the active principle of the plant. Anemonin occurs in white volatile crystals, soluble in alcohol, chloroform, and hydrochloric acid, sparingly so in water or ether.

Physiological Actions.—It has a depressant action on the Spinal Cord, Circulation and Respiration, resembling that of Aconite to a certain extent, and in large doses paralyzes the Medulla Oblongata and Spinal cord, &c. The symptoms are slow and feeble pulse, slow respiration, coldness, paralysis affecting first the hind and then the fore-legs, dyspnoea and death without convulsions (Brunton). It probably poisons motor centres in the brain. It excites irritation of the digestive tract and kidneys.

Therapeutical actions.—Pulsatilla is nervine, alterative and antispasmodic. It is administered with benefit in the *secondary manifestations of syphilis and in chronic cutaneous eruptions of a non-specific nature.*

(1.) *Inflammations of the Mucous Membranes.*—It is highly esteemed as a remedy in chronic catarrhal affections of the mucous membranes wherever located and in inflammations of the m. m. when discharge is of a *muco-purulent character*, as in *Infantile and Gonorrhœal Ophthalmia*. It is also adapted for *acute catarrhal inflammation of nares, throat and bronchi*, and in subacute Gastritis with mucous diarrhœa.

(2.) *Orchitis, Epididymitis, &c.*—Pulsatilla in small oft-repeated doses has a striking curative and analgesic action in Acute Orchitis, Epididymitis and inflammatory states of Spermatic Cord. It is also well spoken of by Drs. Brunton and Gerard Smith as a sedative agent of much power in the treatment of inflammatory states of the testicle and spermatic cord, producing such rapid abatement of pain as to supersede even the necessity for morphine. M. M. Baz and Dormant have cured Blenorrhagic Orchitis with the administration of Anemonine.

(3.) *Uterine Derangements.*—Pulsatilla has long been known as a popular and effective remedy in *uterine functional derangements*. From its stimulating action on the mucous lining of the uterus it is valuable in *Functional Amenorrhœa*. But its actions, although often favourable when administered alone, is much more reliable when given in combination with *Caulophyllin*, restoring normal action to the uterus and imparting tone and energy to the entire utero-genital system; and as they both increase the action of each other, their combination forms *the most perfect Emmenagogue*. It is beneficially employed in the treatment of *irregular, painful and suppressed Menstruation, Spasmodic Dysmenorrhœa, premature cessation of Menses, Leucorrhœa and Prolapsus Uteri*. For Dysmenorrhœa and Amenorrhœa one minim of the tincture should be given every hour or two, a day or two before periods. A lotion of one part of tr. pulsatilla in 10 parts of water is also used as an injection in leucorrhœa.

M. Bovet has treated thirty-four cases of uterine affections with *Anemonine* and has observed that in serious cases it acts as an energetic analgesic agent; in simple cases, such as difficult menstruation with or without leucorrhœa, the menstrual flow was induced at regular periods unaccompanied with pain.

(4.) *Affections of the Nervous System.*—It is really useful in *acute inflammation of the cerebral and spinal meninges*. (Bartholow). Owing to its antispasmodic properties, it is an useful agent for the relief of the *nervousness* of exhaustion due to any cause, and especially in the variety found in women as a result of menstrual derangements and sedentary habits. It has been found useful in the various manifestations of *Hysteria*. It is also valuable in *Headache* due to overwork. Dr. Shapter found it serviceable in *reflex eclampsia*, as from uterine irritation, and in *sympathetic neuroses*. It is also useful for relieving nervous irritability and spasms.

(6.) *Anemonine* is indicated in *Bronchitis*, *Convulsive Cough* and *Asthma*.

Preps. and Doses.—Pd. Herb, 2 to 5 grs.

Inf. (1 to 80), 1 to 4 fl. drs.

Fl. Ext., 1 to 5 mins.; Solid Ext.; $\frac{1}{4}$ to 1 gr.

Tr. (1 to 10 Pf. Sp), 1 to 10 mins.

Anemonine, $\frac{1}{60}$ to $\frac{1}{10}$ gr. or more.

PUNICA GRANATUM.

POMEGRANATE.

The pharmacology of Pomegranate being well known and being already mentioned in both English and Indian works on *Materia Medica*, &c. I simply give a few practical therapeutical uses of its flowers, the fruit and its rind, and root-bark, and then to give the characters and therapeutics of its alkaloid, *Pelletierine*, a recent addition to our *materia medica*.

Therapeutical properties.—The flowers possess astringent properties. (1.) The fresh unexpanded flowerbuds pounded and mixed with powdered Cardamom Seeds, Poppy Seeds and Mastiche and made into

a linctus with Syrup, forms a specific remedy in the treatment of chronic diarrhœa of children and chronic dysentery. (2.) The dried flowers known under its vernacular name of "*Goolnar*" can similarly be used as astringent; 10-15 gr. doses of a powder composed of these dried flowers dr. 1, Gum. Arabic dr. 1, Dragon's Blood (*Sanguin. Draconis*) drs. 2, and *Opii. Pv.* grs. 8, is useful in *Hæmaturia, hemorrhoidal Flux, Hæmoptysis, Dysentery, &c.*

(2.) The juice of the ripe fruit is pleasant, cooling in fevers, quenching thirst, &c. (1.) The acid juice of the fruit forms one of the ingredients of *astringent collyria* for the eye in *Ophthalmia* (2.) The rind of the fruit is a strong astringent, tonic and vermifuge, and is beneficially employed in *chronic Diarrhœa and Dysentery*. (3.) The rind of the fruit with the dried fruit of *Terminalia Bellerica*. (The *Belleric Myrobolans*) slowly chewed in the mouth is effective in cases of *Chronic Bronchitis and Bronchorrhœa*. (4.) The powdered rind enters into the composition of an astringent and strengthening dentrifice as follows:—*R. Creta. Præcip. oz. 1, Cort. Pomegran. Fruct. Pv., oz. ½, Tr. Myrrh. dr. ½. Mix thoroughly.*

(3.) The root bark is the most astringent part of the plant, and (1.) a perfect specific in cases of tapeworm; it is given, in decoction, prepared with 2 ozs. of root bark, boiled in 2 pints of water till 1 pint remains; of this when cold fl. ozs. 3 to 6 may be taken 2 or 3 times, at intervals of an hour, for an adult, and followed by a purgative; for a child 1 to 2 fl. drs. may be given. (2.) The root bark is also highly beneficial in *Leucorrhœa and Passive Hemorrhages*. (3.) It is highly useful as a gargle in relaxed sore throat and as a local application to ulcers of the rectum and uterus.

(4.) Besides the properties of pomegranate root as a remedy for tapeworm, &c., as just described, it has recently been found successful and effective in other diseases of the bowels. Children who are liable to tuberculous diseases or at least wasting diseases—viz., they lose appetite, become thirsty, peevish, restless at night bowels are deranged belly is tumid, and in many cases child wastes away and dies. In such cases the greatest benefit was found to result from the decoction of pomegranate root; not from any anthelmintic properties but from an alterative effects. Several cases had been treated in England, where

the disease, though generally unaccompanied by diarrhœa, is one of the causes of those deaths in children classified as *Consumption*. The remedy had also been found beneficial in some *diseases of adults*, notably in *chronic slight feverishness and debility, due to malaria or splenic enlargement*, though *resisting Quinine* and other usual treatment. In these cases Elixir Granati according to Siebold's Formula was administered in doses of 10 mins, equal to a little more than $\frac{1}{2}$ oz. of P. B. Decoction.

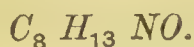
Preps. and Doses.—Fruit-Rind, 10 to 30 grs.

Pd. Root-bark, 2 to 3 drs. as a vermifuge ;

Decoct. of the same (1 to 20), 3 to 6 fl. ozs.

Fl. Ext. of Root-Bark, $\frac{1}{4}$ to 2 fl. drs.

PELLETIERINE.



Characters and Tests.—An alkaloid obtained from the root-bark of Pomegranate (*Punica Granatum*), and occurring as colourless, minute crystals, which, in the open air or in flasks incompletely filled, become coloured very rapidly. It is soluble in water. It gives with Sulphuric Acid and Pot. Bichromate green colour as intense as alcohol in the same conditions.

PELLETIERINÆ SULPHAS.

In minute white acicular crystals, which become brown and moist on keeping ; freely soluble in water.

PELLETIERINÆ TANNAS.

A grey amorphous powder, soluble in water.

Therapeutical properties.—For cases of Tapeworm the alkaloid Pelletierine is now conveniently administered, and the tannate is the salt most used in medicine. It is a powerful anthelmintic ; a dose of 8 grs. of tannate followed in 2 hours by a dose of Castor Oil or a full dose of Tr. Jalapæ Co., has been found to expel the worm entire, causing neither colic nor headache.

Patients taking pelletierine for tape-worm have been found to have been affected with *diplopia*. The observance of this fact induced

M. Golezoskwi to prescribe pelletierine when there is *paralysis of the third and sixth pairs of cranial nerves*. *Iodide of Pot. and Blisters have failed where Pelletierine has effected a cure*. The preparation used is *Syr. of Pelletierine*, 15 grs. per 120 parts of syrup ; from 3 to 6 doses were given. 5 grs. of the sulphate hypodermically injected is recommended for *Paralysis, Vertigo, Menier's Disease, Tetanus and Hydrophobia*.

Preps. and Doses.—Pelletierine, 5 to 10 grs..

Pelletierinæ Sulphas, 5 to 8 grs. for an adult,
half this dose for 13 years of age, and one-
tenth of this dose for infants.

Pelletierinæ Tannas, 5 to 8 grs ; maximum
adult dose 20 grs.

PYRIDINE.



Characters.—Pyridine, obtained by dry distillation of bone and other organic substances of various kinds, is a colourless and easily vaporizable liquid of penetrating odour, is readily miscible with water and forms very soluble salts with mineral acids. It boils at 243° F.

Therapeutical properties.—Whatever be the form of *Asthma*, whether it be nervous, emphysematous, or catarrhal, whether it be primordial or of a gouty or dartrous origin, iodisation constitutes the true curative method. But when iodism supervenes, the employment of Pyridine is indicated, being the most certain agent for the relief of paroxysm and the best palliative, just as Iodine is the most efficacious remedy.

When *Asthma* is accompanied by cardiac or other complications, according to Dr. Germain Seé, an *inhalation of Pyridine* is preferable to *injection of Morphia*, its action being more durable and far more inoffensive. 60 to 80 mins. are exposed in an open dish in a small room and the patients allowed to enter for 20 to 30 minutes three times a day. In simple *Nervo-Pulmonary Asthma*, the paroxysms can be completely put an end to. In severe *Asthma* complicated with permanent pulmonary lesions, the treatment had to be continued from 8

to 10 days, in order to consolidate the amelioration obtained; and when we have to do with Cardiac Asthma, with or without renal or dropsical complications, Pyridine may still be of the greatest service in combating the most persistent and most painful of the phenomena—viz., oppression of breathing whether continuous or paroxysmal.

Mode of Administration and Dose.—60 to 80 drops placed on a plate and the vapour of this inhaled for 20 minutes three times a day.

Pyridine must not be confounded with *Pyrodine*, the new antipyretic which follows.

PYRODYNE.



Syn.—Acetyl-phenyl-hydrazine.

Characters.—A white crystalline powder sparingly soluble in cold water.

Physiological actions.—It readily produces toxic symptoms, acting on the blood and producing hæmoglobinæmia; in large doses produces cyanosis, coldness and complete collapse. There is a complaint of dark cloud round the eyes from the decay of the red blood corpuscles. The urine assumes a mahogany-brown colour such as described by Æsterreicher and contains much albumen (*Vide* below under its “Toxicology”).

Therapeutical actions.—(1) Pyrodine is a powerful antithermic agent, acting more quickly than other antipyretics of the same class—Antipyrin, Antifebrin, or Phenacetin—and is said to cause neither nausea nor vomiting. Its antipyretic powers are certainly of a high order, but at the same time—probably from the action, when decomposed of a nascent phenylic compound—it appears to be so poisonous as to be very unsafe. The fact that the poisonous symptoms are often produced even with small doses (4 grs. sometimes) and when administered with great care, prohibits its use except in the most severe and critical cases. (2.) Pyrodin is useful in *Tuberculosis*; $\frac{3}{4}$ gr. reduces temperature from $1\frac{1}{2}^{\circ}$ to $2\frac{1}{2}^{\circ}$ and to maintain this result it is necessary only to give this dose once daily to tuberculous patients. *Its favourable action persists for many days after discontinuing it and*

it is after 4 to 6 days that temperature regains its original height. It has also analgesic properties being useful in neuralgia and gastric pains. It relieves nightsweats in phthisis.

Doses.—8 to 12 grs., for adults, per day; 3 or 4 grs., for children, per day. According to some authorities the dose should never exceed $1\frac{1}{2}$ to $2\frac{1}{2}$ grs. per day, as 4 grs. have produced poisonous symptoms.

HYDRACETIN.

Therapeutical properties.—(1) Hydracetin, the active principle of Pyrodine, exercises a powerfully antipyretic action in relatively small doses, and is also effective in relieving rheumatism of the joints. It is a reducing substance and belongs to the same class as Pyrogallie Acid. An ointment of 10 per cent. is useful in Psoriasis.

Toxicology.—(2.) Dr. A. Grunthal, describes a case of hæmorrhage from poisoning with hydracetin. A medical student suffering from psoriasis, who had been fruitlessly treated with the usual drugs, took hydracetin without observing the necessary precautions as to dose. Within four days he rubbed about 30 grammes of hydracetin, in a 20 per cent lanolin ointment, over his whole body. After some days he fell with cyanosis, vomiting, and fever, which amounted to 40° C. The urine had the mahogany-brown colour such as described by Cæsterreicher, and contained much albumen. On the tenth day severe epistaxis came on, and the next day the patient complained of a dark cloud before his eye. He became markedly anæmic. On examination by Dr. Grunthal with an ophthalmoscope, two small retinal hæmorrhages in the left eye were revealed. After four weeks the hæmorrhages were absorbed, and the general condition of the patient improved. In five weeks he was well. In poisoning with hydracetin Paul Guttman has proved there is a decomposition of the red blood corpuscles, and the retinal hæmorrhages in the case just related may be explained by decay of the red blood corpuscles and an alteration of the blood vessels thus produced.

Dose.— $1\frac{1}{2}$ gr. for an adult. To be safer gr. $\frac{3}{4}$ should be given every hour.

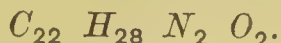
QUEBRACHO.**ASPIDOSPERMA QUEBRACHO.**

Syn.—*Quebracho Blanco.* *Part employed.*—*The Bark.*

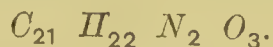
N. O.—*Apocynaceæ.*

Habitat.—*Province of Catamarca, of the Argentine Republic.*

Characters and Chemical Composition.—The bark is distinguished by a peculiarly heavy development of the corky layer in proportion to the entire dimensions of the bark, possessing therein an important characteristic feature as compared with other barks. It occurs in pieces which have a thickness of 20-30 mm. The outer portion of the corky layer is of a dirty gray color, covered here and there with remains of lichens ; when the external grayish portion is removed by friction, it appears yellowish red. The transverse section shows the cortical layer to be of an ochreous yellow colour. Sinuous bands of tolerably uniform width traverse its tissue in lines of nearly parallel direction. Between these dirty yellow lines there are whitish points interspersed through the mass. The inner fibrous layer is composed of a clove-brown mass in which, as in the bark, there are numerous whitish grains. It contains at least six alkaloids, of which the two chief are *Aspidospermine* and *Quebrachine* ; besides these there are tannin, an astringent acid resembling gallic, a yellow dye-stuff, &c.

ASPIDOSPERMINE.

Small, white prismatic crystals, easily soluble in alcohol and ether, very slightly in water, melts at 205° to 206° C. The muriatic and sulphuric salts are easily soluble in water. The taste is intensely bitter, resembling sulphate of quinine. It amounts to 0.17 per cent in the bark.

QUEBRACHINE.

It amounts to 0.28 per cent. It is slightly soluble in cold alcohol but more readily in hot alcohol and it crystallizes from a solution in

small white anhydrous prisms. It melts at 214° to 216°C . under partial decomposition. It is a strong vegetable base. Dissolves in pure sulphuric acid with a bluish tinge.

Physiological actions.—It diminishes the frequency of breathing and renders the respirations less deep. From experiments on animals and man Dr. Penzoldt has found that Quebracho by acting directly on the blood, supplies the power to absorb larger quantities of oxygen than usual, and that the blood flowing through the capillaries into the veins is deeper coloured than normal. Hence it appears to assist the oxygenation of the blood, as well as to stimulate the respiratory centres. It has no influence upon the temperature and causes only immaterial diminution in the frequency of the pulse. Sometimes it produces unpleasant secondary symptoms, which make its administration somewhat difficult; these symptoms consist of a feeling of warmth in the head sometimes amounting to headache—partial unconsciousness, giddiness, salivation, and slight perspirations.

Therapeutical actions.—Quebracho has recently been introduced as a remedy for *dyspnœa*. It acts in fact as the *Digitalis* of the Lungs. It relieves *dyspnœa* whether resulting from purely nervous disorder or due to purely anatomical alterations in the Respiratory and Circulatory Apparatus.

(1.) *Pulmonary Affections.*—(a.) Quebracho administered in proper doses *facilitates expectoration, relieves cyanosis and sense of suffocation due to embarrassed respiration as in Emphysema, Capillary Bronchitis, Phthisis and Chronic Pneumonic processes, Pleurisy or Periodic Asthma*. Dr. Penzoldt has also found that after giving Quebracho in these pulmonary affections, *the frequency of breathing generally diminishes, the respirations are less deep, and especially the cyanosis (in Phthisis and Emphysema) are almost invariably diminished or removed*. These effects last four hours, and are followed, without exception, by greater or smaller, sometimes extraordinarily subjective, improvement of the patient. (b.) The liquid extract of Quebracho, in teaspoonful doses, repeated, if necessary, at intervals of ten minutes, certainly relieves as I* have observed, the *dyspnœa of Phthisis, Pneumonia, Pleurisy and Emphysema*. Que-

* J. B. Burkhart, M. D., (City of London Hospital for Diseases of the Chest.)

bracho bark appears in many cases to be a useful palliative for dyspnœa (spasmodic asthma) in *Pulmonary Emphysema and Chronic Bronchitis*; in other cases, however, the remedy is without any effect, especially in aged individuals. (c.) It is effective in diminishing shortness of breath in climbing hills and in walking fast.

(2.) *Cardiac Affections*.—Quebracho is effective in completely relieving the dyspnœa depending on diseases of the heart, *valvular lesions incompetency, &c.* Cases of dyspnœa due to inefficiency of *Sigmoid Valves*, old standing *Cardiac Hypertrophy*, Hypertrophy of the Heart in those addicted to *alcoholic drinks*, and cases of severe *nocturnal dyspnœa from diseases of the valves and heart* are most decidedly benefited by Quebracho (*Vide Clinical Reports*).

(3.) *Diarrhœa*.—It is possible that as an astringent in diarrhœa the resinous residue of the bark, which is only soluble in alcohol, may be of service. Dr. Berthold noticing that the diarrhœa of a phthisical patient stopped while taking quebracho has tried the resin in acute and chronic intestinal catarrh with good results.

(4.) *Wounds, Burns and Frost Bites*.—Fl. Ext. of Quebracho if painted on wounds with a smooth surface causes first a passing sensation of pain and promotes healing by first intention. Also used in burns and wounds caused by freezing. The fl. ext. when applied, hardens in course of an hour and forms crust on the wounds, which can be removed only by warm water. The secretions on wound dry up and healing rapidly takes place, after which brown crust will fall off. No bandaging is required.

(5.) *Aspidospermine* given hypodermically has been found useful as an *antipyretic* and also for relieving dyspnœa; can also be given by the mouth.

(6.) *Clinical Reports* :—

Report 1.—Dr. Berthold relates two cases of spasmodic asthma which were much benefited by the new drug. In the first the respirations fell after three doses from 64 to 30, with general improvement of the symptoms; in the second, where the asthma

depended on emphysema, the effect was less rapidly produced; but the patient, who had been under Dr. Berthold's care for four years, and who generally had to lay up for one or two weeks at the time of his attacks, was about again in five days. In a case of mitral incompetence and stenosis, quebracho relieved the severe nocturnal dyspnœa most decidedly; in two advanced cases of fatty degeneration of the heart it also did good, but digitalis had to be given for the relief of œdema, over which the quebracho exerted no influence whatever. Dr. Berthold, however, from his small experience is inclined to regard the latter drug as indicated in cardiac disease when the pulse becomes irregular under the action of digitalis, and when orthopnœa continues after the digitalis has been omitted. In one or two cases of chronic bronchitis, and in several cases of phthisis in the latter stages, the drug proved unsatisfactory; in two patients with phthisis, however, it relieved the dyspnœa wonderfully. In one of these the respirations fell from 52 to 28 after teaspoonful doses of the extract every two hours. Dr. Picot not only gave quebracho with good results to three patients with catarrhal pneumonia, bronchial asthma, and cardiac disease, dyspnœa being in each an urgent symptom, but he experimented on himself with it as to its effect in diminishing shortness of breath in climbing hills.

*Report 2.**—In a case of Aneurism of the ascending arch of the Aorta, Cardiac Hypertrophy and great dyspnœa, iodide of potassium was given till symptoms of iodism appeared, without relief to the patient. Mins. xxx fluid extract quebracho were administered every three hours. After the second dose, complete relief of dyspnœa was experienced, the pulse fell from 100 to 86, and the respiration, which had been hitherto hastened, to its normal frequency. During the two weeks following, while he remained in the hospital, several recurrences of dyspnœa were as speedily relieved.

Report 3.—J. B. Burkart, M.D., tried it in cases in which the dyspnœa was associated with emphysema of the lungs, atheroma of the arteries and degeneration of the cardiac muscles, and in every case the quebracho afforded immediate relief.

* Austin Flint, Sr., in his service at Bellevue Hospital.

Preparations and Doses.—Fl. Ext., 20 to 60 mins. Solid Ext., 1 to 3 grs.

Tr. (1 to 5 Pf. Sp.), 30 to 60 mins.
or 2 fl. drs.

Aspidospermine, $\frac{1}{4}$ to $\frac{1}{2}$ gr. by the mouth; $\frac{1}{64}$ to $\frac{1}{32}$ gr. hypod.

QUILLAIA SAPONARIA.

Syn.—*Soap-Tree.*

N. O.—*Rosaceæ.*

Part used.—*The Bark.*

Habitat.—*Peru and Chili.*

Characters and Chemical Composition.—Flat, large pieces, about one-fifth of an inch thick, outer surface brownish-white, often with small patches of brown cork attached, otherwise smooth; inner surface whitish, smooth; fracture splintery, checkered with pale brownish bast fibres in white tissue; inodorous, very acrid and sternutatory. The bark contains a glucoside, saponin, and is rich in sugar.

Therapeutical properties.—The bark has been found to be an efficient and more pleasant substitute for senega root. The active principles of both drugs is saponine, but Quillaia contains five times as much of it as Senega does, and has no bad taste being rich in sugar. Patients tolerate Quillaia better than Senega. It seldom gives rise to diarrhoea or vomiting. It has decided expectorant action. Has been used externally as a cleansing agent. The tincture is employed to emulsify oils and balsams, and mixed with water it forms a nice wash for the hair.

Preparations and Doses.—Decoct. (1 to 40), $\frac{1}{2}$ to 1 fl. oz.

Fl. Ext., 3 to 8 mins.

Syrup (1 to 20), 1 to 2 fl. drs.

Tr. (1 to 10 Rect. Sp.), 10 to 60 mins.

QUINETUM.

Syn.—*Cinchona Febrifuge; Mixed Cinchona Alkaloids.*

Characters.—An amorphous powder, prepared from the red cinchona bark grown at the Government plantations, Darjeelina,

and contains all the febrifugal alkaloids of the *Cinchona Succirubra* in the relative proportion as they exist in the bark. Sparingly soluble in water and in 90 parts of Rect. Sp. The sulphate resembles sulphate of quinine.

Therapeutics.—It is extensively used by the Indian Government in place of quinine, and in many cases it is equally efficacious, but the chief drawback is the irritability of the stomach which it frequently produces, to obviate which it is best administered in form of pills with an effervescing mixture, &c.

Dose.—1 to 5 grs. or more.

QUININÆ CARBOLAS.

Syn.—*Quininæ Sulphocarbolas.*

It contains 77.51 per cent of quinia. It is very sparingly soluble in water and is very soluble in ether. It has the properties of Quinine with those of the Sulphocarbulates.

It is useful in Diarrhœa.

Dose.—1 to 6 grs.

QUININÆ FLUORIDUM.

It is useful in cases of *Splenic enlargements* especially in combination with Fluoride of Ammonium and Iron. It is useful in *Rickets*.

Dose.— $1/24$ to $\frac{1}{2}$ gr.

QUININÆ HYDROBROMAS.

Syn.—*Bromide of Quinine.*

Characters.—Colourless, lustrous needles permanent in ordinary air, but readily efflorescing at gentle heat, odorless, having a very bitter taste, and a neutral and very slightly alkaline reaction. Soluble in 24 parts of water, and in 3 parts of alcohol at 15°C (59°F); in 1 part of boiling water; in 6 parts of ether, in 12 parts of chloroform, and moderately soluble in glycerine.

Therapeutical properties.—The advantage of Bromide of Quinine over the ordinary Sulphate is that it allows of much larger doses of

Quinine than are common, and in frequent and continued doses, without setting up the symptoms of Cinchonism. It is of good service where certain special and persistent symptoms follow upon syphilis. Dr. Richardson has found bromide of quinine in doses of 1 to 3 grs. ter die, to be more immediately and determinately beneficial than any other treatment, in cases of *Recurring Rheumatism*, of *Recurring Ulceration of Fauces*, of *General Nervous Exhaustion*, with flying pains in the limbs, loss of appetite, *General Debility*, loss of hair, and remaining thickening enlargement of the groin, a sequence of *Bubo*. It is also employed as an antipyretic; it was administered in a case of *Typhoid Fever*, and in two cases of *Phthisis* it caused disappearance of feverish symptoms, when the sulphate of quinine was not tolerated and was ineffective.

Dose.—1 to 5 grs.

QUININÆ LACTAS.

Properties and Uses.—M. Pierre Vigier states that for injection in Gonorrhœa the Lactate is the best preparation of quinine owing to its greater solubility, viz., 1 in 10 of water. His formula is Quin. Lact. 1 grm. Glycerine 25 grms. and Aq. Dest. 75 grms.; about 5 grms. should be injected 3 or 4 times a day. He strongly recommends the practitioners to employ the Lactate in preference to any other preparation of Quinine, whether for internal, external or hypodermic use.

Dose.—1 to 6 grs.

QUININÆ SALICYLAS.

Characters.—An anhydrous salt which crystallizes from alcohol in beautiful prisms arranged in concentric groups. Soluble in 225 parts of water and 24 parts of rect. sp. It contains 70.12 per cent of quinia.

Therapeutics.—It is very efficacious in acute stage of Rheumatism, Rheumatic Gout, Rheumatic pains and Neuralgias in general; useful for diarrhœa.

Dose.—1 to 10 grs. in pills.

QUININÆ SULPHAS ACIDA.

Syn.—Soluble Quinine; Neutral Sulphate of Quinine; Quinine Bisulphate.

Characters.—Colourless, clear, orthorhombic crystals or small needles, efflorescing and becoming opaque on exposure to air odorless with a strongly acid reaction. Soluble in 12 parts of water.

Therapeutics.—It is the most generally used salt for hypodermic injections. A solution of 1 or 2 grs. to the ounce of water is beneficially applied to the eyes and nostrils in *Hay Fever*.

Dose.—1 to 5 grs.

QUININÆ SULPHAS.

New Therapeutical properties.—(1.) *Antiperiodic and Antipyretic*: (a) In many cases of Remittent and Intermittent fevers, the combination of Quinine with Chloride of Ammonium or a salt of Potash or Soda is likely to be more easily tolerated, as well as more useful, than if it be administered in a pure form. In over 70 cases of Intermittent fever, the attack has been cut short with one blow by using these drugs in combination; 20 to 30 grs. of Quinine for dose with 15 grs. of Pot. Chloras, in a number of pills are given. (b) The febrifuge effect of Quinine is increased by combining it with Opium, and that opium eaters in the malarial districts of India escape fever. (c) That Quinine in large doses brings down the temperature to normal in Remittent Fever while in Typhoid Fever it does not, yet has a distinct effect on the range of temperature. In Typhoid Fever, Quinine causes deafness much more sooner than in Remittent.

(2.) *Coryza and Hay Fever.*—Dr. N. Ffolliott, states that coryza or nasal catarrh may be cured in a few hours if taken, at the onset, or at most twelve hours afterwards, by the inhalation of a spray of sulphate of quinine. The solution used is made by dissolving 4 grains of quinine in an ounce of water, with just sufficient dilute sulphuric acid to dissolve it, and scenting it with any agreeable perfume. The solution is injected up the nostrils in the form of spray with an ordinary hand ball spray-producer in such a way

that the quinine can be tasted at the back of the mouth. This is done every hour or oftener according to the urgency of the symptoms. He states that this remedy has been tried with success in hay fever, and that if nasal catarrh is of parasitic origin, as he strongly suspects, the action of quinine (as an antiseptic?) is at once apparent. It might be added that, even supposing catarrh to be the result of sudden change of temperature, the action of quinine in contracting the superficial capillaries would be quite obvious.

(3.) *Colic*.—Dr. N. R. Derby says, that he discovered by accident, that a dose of 8 or 10 grs. of sulphate or quinine will speedily put an end to an attack of colic. Since childhood he had himself been a frequent sufferer from this distressing trouble; but since this discovery he has been able to arrest the attack either in himself or other. His observations extend over a period of three years, and have embraced many cases.

(4.) *Insomnia*.—(a.) Dr. Weaver recommends Quinine as a hypnotic in *Insomnia arising from debility or nervous irritability*, as being much preferable to Bromides. It is safer than most other hypnotics, has no disagreeable after-effects, and its use is not likely to become a habit as is the case with Morphia, Chloral, &c. It is *contra-indicated in cases of sleeplessness due to congestion of the brain or its blood-vessels*, as in such cases it produces headache and intensifies the insomnia. An ordinary dose of Quinine according to the age of the patient, is to be given at bed-time.

(b.) Quinine is also found useful in *Insomnia due to Malaria*; some persons awake in the middle of the night at a fixed hour and then cannot sleep. In such cases the following powders are useful:—R Quin. Sulph. grs. 6 to 15, Sod. Bicarb. grs. 15 to 30. Ft. pulv. 12. S. One every morning, and if necessary, every evening.

(5.) *Pruritus Ani*.—Quinine rubbed up with a sufficient quantity of lard is said to be a never-failing remedy for pruritus ani.

(6.) *Chilblains*.—From the action of quinine in contracting the superficial blood vessels it is recommended for chilblains in the itching stage when the capillary vessels are dilated.

(6.) *Syphilis*.—Quinine is capable of rendering great service in cases of syphilis where the patients are either greatly reduced or

where the temperature and weight of the patient are subject to great oscillation. In other cases Quinine is useless. From 15 to 22 grs. per day should be given. Under the influence of this amount the general state and appetite are improved, the body weight increases and the temperature decreases. Ulcers clean off and begin to heal; and if ptyalism and stomatitis have been present they will diminish. That in cases where quinine is used with mercury, it is necessary to increase the amount of the latter drug given daily. By this method 178 cases of Syphilis have been treated. The cases in which the improvement had followed the use of Quinine were not due to any complication with the malarial element.

(7.) *Oxytocic*.—Dr. Atkinson's conclusions as regards the oxytocic action of Quinine are as follows:—

(a.)—The cinchona preparations have *not a fixed and definite influence in causing contractions of the uterus*. (b) An oxytocic action is *occasionally produced* by these remedies. This action depends upon *idiosyncrasy*; and, as in the other idiosyncratic reactions to cinchona it is impossible to foretell, in any given subject, its manifestation. (c.) There is some evidence that this reaction is only exerted *under large doses or in debilitated subject* (d.) Cinchona and its derivatives should be used *during pregnancy with great circumspection, and should be at once withheld upon supervention of symptoms indicating a uterine motor influence*.

(8.)—M. Verneuil considers Quinine to be useful in *surgical affections* and has found it to be efficacious in several cases in his wards in which the element *pain* was one of the conspicuous symptoms. Thus in two cases of *cancer of the uterus*, M. Verneuil succeeded in relieving the excruciating pain by the administration of quinine, after having failed to affect the desired relief by other means usually employed in such cases. He says that Quinine is particularly useful in all cases of *an ataxic or adynamic nature in neurcpathic affections, and in septicæmia*. In ataxic cases it is not necessary that the symptoms must be of an intermittent character to justify the administration of the drug. He has found it chiefly, useful in *affections of the eye, and in septicæmia* its efficacy is unde-

niable ; in the latter affection it lessens the pus-forming process, and acts as a corrective of the septic elements generally at the seat of lesion, whether caused by the surgeon's knife or by accident. Here the sulphate of quinine is *doubly useful*, not only on account of the above properties, but, even, when employed locally, it acts as a *powerful antiseptic*.

(9.) *Quinine Intoxication*.—As a remedy for the *relief of Quinine intoxication*, as the over stimulation caused by Quinine by excessive doses *Ergot* has been used in several cases with benefit, and it is found that *to neutralize the cerebral effects* of 15 grs. of Quinine, at least 20 grs. of powdered *Ergot* or 15 grs. of powdered *Ergotine* must be employed. With this remedy the most annoying tinnitus may be entirely removed during the administration of Quinine. Besides *Ergot*, *Antipyrine* and *Bromide of Potassium* are also effective remedies for neutralizing the cerebral effects produced by Quinine.

(10.) *Contraindication and Incompatibility*.—Never to give Quinine in antipyretic doses in cases where bowels are confined and the secretion of urine scanty ; in cases where it is being administered, and an increase of dose is desirable, this may be safely done, if the skin, bowels and kidneys maintain their normal functional activity. Sulphate of Quinine is incompatible with Iodide of Potassium because Iodine becomes liberated and causes irritation and hence anorexia, nervousness and general malaise results. That very serious results may occur from this cause during menstruation.

(11.) *For cases of Irritable Stomach the following mode of administration is beneficial* :—

Dissolve Quinine in Citric Acid and add Glycerine and make into an ordinary mixture. Dispense Bicarbonate of Soda in powders more than sufficient to neutralize the Citric Acid of a dose. Add the Soda to milk in a glass, stir well, then add dose of Quinine mixture still stirring. The effervescing draught somewhat resembling sparkling Koumiss, will be tolerated by the stomach even when the tongue is red and irritable, the tongue after the draught changing its character.

Preparations.—(a.) *Hypodermic Injection*: R Quin. Sulph. grs. 20, Acid-Lact. mins. 2, Aq. Dest. ad. mins. 100, M. 5 mins = 1 gr. of quinine. It is useful hypod. in the absence of the Neutral Sulphate or Lactate of Quinine.

(b.) *Pills.*—Mr. H. P. Reynolds speaks very highly of the following formula for the preparation of quinine pills. He has tested the process for over three months, and during that period has made thousands of pills, which have always given entire satisfaction. He says that the quantities directed are correctly proportioned, and should not be altered.

Quinia sulph. gr. 600; acid tartaric, gr. 100; glycerine, mins. 75. Rub the quinia and acid together in a mortar to a fine powder till no appearance of crystals remains, add the glycerine—just seventy-five minims, no more, no less—and continue the trituration till the powder becomes adherent, when it should be beaten into proper form for handling and divided into the requisite number of pills. The mass is firm, solid, rolls well, does not set for some hours—is, in fact, a “beautiful mass,” and the pills will be found quite small for their weight, very white if rolled in starch powder, and, however old or dry they may become, they remain perfectly and entirely soluble.

QUININÆ TANNAS.

It is insoluble in water, but being tasteless it is preferred for administration to children.

Dose.—1 to 4 grs. or more.

QUININÆ VALERIANAS.

Characters.—White, pearly, lustrous, triclinic crystals. permanent in the air, having a slight odor of valerianic acid and a neutral reaction. Soluble in 100 parts of water, 40 of boiling water, 5 of alcohol and slightly in ether.

Therapeutics.—It is a bitter tonic and antispasmodic. Useful in *Hysteria with debility and Nervous Headache*.

Dose.—1 to 4 grs. in pill or mucilaginous mixture.

QUINOIDIN.

Syn.—*Chinoidin*.

Characters.—It is a mixture of alkaloids, mostly amorphous, obtained as a by-product in the manufacture of the crystallizable alkaloids from cinchona. It occurs as a brownish-black, or almost black solid, breaking when cold, with a resinous, shining fracture, becoming plastic when warmed, odorless, having a bitter taste and an alkaline reaction. Almost insoluble in water, freely soluble in alcohol, chloroform, and dilute acids; partially soluble in ether and in benzol. The solutions have a very bitter taste.

Therapeutical properties.—(1.) It possesses the tonic and antiperiodic properties of Sulphate of Quinine, but it is said to be more effective in *chronic malarial diseases*, where quinine is less curative. In chronic Malarial Infection where important changes have been produced in the intestinal canal, liver, spleen, kidneys, and cerebro-spinal axis, the paroxysms of fever occur irregularly, and various abnormal manifestations of infection take place. So in such cases of chronic Malarial poisoning with Anæmia, the following combination may be given with advantage:—

R Chinoidin grs. 2, Podophyllin gr. 1/5, Ferri Sulph. gr. 1,
M. ft. pil. 1. Sig. One thrice a day.

(2.) In periodical affections of malarial origin and enlargement of the spleen, the following is useful:—R Chinoidin gr. 1½, Hydrastin grs. 3, Ferri Sulph. gr. 1. ft. pil. 1. Sig. Two thrice a day. *Dose.*—1 to 5 grs. or more.

QUINOLINE.

$C_9 H_9 N$.

Syn.—*Chinoline*.

Characters.—Quinoline or Chinoline, synthetically prepared from Aniline, Nitrobenzene, Glycerine and Sulphuric Acid, is a transparent, oily, mobile, highly refracting liquid, with a peculiar odour and slightly caustic taste; soluble in alcohol, &c., but only slightly soluble in water. With acids it forms very deliquescent salts, viz., the Hydrochlorate, Sulphate, Salicylate and the Tartrate, of which the *last* can only be obtained in non-deliquescent crystals.

QUINOLINE TARTRATE.

It occurs in silky, shining, non-deliquescent crystals, odourless, or a faint odour of bitter almonds, and has somewhat biting, but not bitter taste, somewhat resembling that of peppermint water; soluble in 40 parts of water.

Physiological actions.—It causes a notable fall of temperature, gastric derangement, and tinnitus aurium. In a toxic dose it causes frequency of respiratory movements, diminishes and finally abolishes reflex excitability, paralysis and death (often attended with pulmonary œdema.)

Therapeutical actions.—It was first discovered by H. Skraup to exist in Quinine and Cinchonine. It possesses antiseptic and febrifuge properties. It possesses blood liquid for 28 days, while milk may be preserved for 16 days from coagulating. Apart from this Quinoline possesses properties of interest and importance in as much as it is able to prevent the Lactic Acid fermentation almost entirely in a fermenting liquid, while in practical medicine Quinoline is applied in cases of *Malaria*, *Typhoid Fever*, *Whooping Cough*, *Diphtheria* and *Gonorrhœa*. Chinoline being insoluble in water, its application for medicine is more convenient as a salt, of which the salicylate and Tartrate are most in use.

(1.) *Fevers.*—Tartrate of Chinoline is a good antipyretic, generally indicated in the same cases as Quinine, and serving in certain cases as a cheaper substitute for the latter. It cannot be said that it will make quinine superfluous, since, in a few of the cases, it did not fulfil all expectations, the paroxysms returning afterwards in a milder degree, and therefore requiring a larger quantity of the salt for complete cure. As this partial failure is also sometimes encountered when using quinine, so chinoline may be administered with probable success as an alternative for Quinine, whenever the latter should be found to fail. The most prominent disadvantage of Chinoline, besides its peculiar odour and slightly caustic taste, consists in its property to irritate the stomach of delicate persons, sometimes so much as to cause vomiting. For this reason it will *scarcely be fit to be used in heavy febrile conditions, infectious diseases, &c.*, where the irritability is increased

and only minute quantities of acid are secreted by the stomach. In ordinary malarial attacks, however, it will find a large field for usefulness; its comparatively low price compared with that of Quinine, and its want of bitterness rendering it of special importance in the treatment of children, are advantages in favour of chinoline.

Dr. Loewy, of Fünfkirchen, has treated 40 cases of intermittent fever with tartrate of chinoline. He gave it to adults in the same doses as quinine, namely 1 gm ($15\frac{1}{2}$ grs.) to be taken 3 hours before the expected attack in 2 or 3 portions, either in capsules, if the stomach was delicate or in solution. In the latter case the following formula was used :—

Chinoline tartratis	...	...	...	1 gramme.
Syrupi rubi idæi (Raspberry)	...	...	50	„
Aquæ	...	...	...	50 „
Aquæ laurocerasi	...	...	...	2 „

In patients having a very delicate stomach, or who had already been under the influence of malaria for a long while, and whose digestion was greatly impaired, he directed a spoonful of lemon-juice to be taken after each dose of the salt, so as to furnish sufficient acid to render the salt (which has an alkaline reaction) soluble. This generally overcame any tendency of the salt to cause nausea or vomiting; in some cases he also combined with it the administration of small pieces of ice. Children of four to eight years were given about half of an adult dose, always in solution, the quantities being graduated, according to age, as with quinine. The tartrate of quinine can also be used hypodermically and is not particularly liable to cause irritation like the hydrochlorate.

(2.) *Diphtheria*.—Dr. Otto Seifert has used the following as a topical remedy in diphtheria :—

Quinoline	...	...	...	1 gram (gr. xv.).
Distilled Water	...	...	500	„ (O. 1.)
Alcohol	...	...	50	„ (oz. $1\frac{2}{3}$)
Oil of Peppermint	...	...	...	gtt. ij.

He uses it as a gargle; and also applies by means of a brush or swab a solution of equal parts of water and alcohol with five parts

of pure quinoline in solution. He thinks that it loosens the membrane in from twelve to twenty-four hours, and that the glandular swellings subside, and the temperature is reduced more quickly than under other treatment.

(3.) A solution of 1 part of Quinoline in 500 parts of water forms a good injection for Gonorrhœa.

Preparations and Doses.—Quinoline, 3 to 10 mins.

Quinoline Tartrate, 5 to 16 grs.

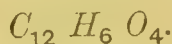
„ Sulphate „ „

„ Hydrochlorate 5 to 16 grs.

QUINOLINE SALICYLATE.

It is well adapted for antiseptic treatment. It has similar properties to the tartrate, but the antiperiodic and febrifuge properties of the base in this salt are believed to be intensified by combination with Salicylic Acid, a powerful antizymotic.

RESORCIN. (RESORCINOL).



Syn.—*Dihydroxybenzol* ; *Oxyphenol* ; *Diatomic Carbolic Acid* ;
Poor Man's Quinine.

Characters.—Resorcin, discovered in 1860 among the products of fusion obtained by treating Galbanum with Potash, and later on obtained from Gum Ammoniac and Assafoetida, occurs in pure-white small needle-shaped crystals, almost totally free from odour, very soluble in water (1 in 2), and soluble in 20 parts of Olive Oil ; also more soluble in alcohol and ether than Carbolic Acid.

Physiological actions.—According to Drs. Dujardin-Beaumetz and Cullias, Resorcin (a) if taken in quantities of 30 to 60 Centigrams (5-10 grains) for each kilogram ($2\frac{1}{2}$ lb.) of body-weight, it produces trembling and tonic convulsions, and accelerates respiration and circulation, all of which symptoms disappear in one hour. Sensibility and consciousness are unimpaired (b.) The quantity of 60 *egm.* (10 grs.), for each kilogram, causes intense vertigo and loss of consciousness ; the sensibility is blunted ; the clonic convulsions are violent and frequent.

and affect the anterior middle of the body of the animal. The pupils are dilated, and the respiration and circulation are excessively accelerated. The temperature is but little affected. All these symptoms disappear in from one to two hours (*c.*) In quantity of 90 *cgm* to 1 gram (14·5—15 grs.), for each kilogram, death supervenes in about thirty minutes, preceded by similar symptoms, which are, however, not so violent in the limbs. There appear tetanic contractions of the muscles of the neck. The temperature rises gradually, and without exception, up to 41° C. (105·8° F.) at the moment of death. There is no tetanus. Rigor mortis sets in about fifteen minutes after death. This shows that resorcin is an excitant of the central nervous system. (*d.*) Resorcin has no influence upon the morphological state of the blood, except when it is brought in direct and actual contact with the liquid blood.

According to Sarbeck, Resorcine dilates the vessels of the face and skin generally, causing great perspiration, almost like Pilocarpine. It is apt to produce cerebral symptoms resembling those of Quinine or Sod. Salicyl., producing delirium of a lively character. Slight twitching frequently occur in the muscles of the eye, face and extremities; sometimes in place of delirium deep sopor is produced; these symptoms also quickly pass away. Resorcine is excreted by the kidneys—it does not irritate them in its passage or produce albuminuria.

Righi, agreeing with these observers, says that it often induces for a short time vertigo, tinnitus aurium, and reddening of the face; its administration is almost always followed by copious sweating for two hours, and by darkening of the urine.

Therapeutical actions.—Resorcine shares with Salicylic Acid, Carbolic Acid, and other substances belonging to the aromatic series, the property of being an *antiferment* (in the proportion of 1:100), and an *antiseptic* (1·5 : 100). In a one per cent solution it will arrest mould or decay. That Resorcin, whether in strong or weak solution, is *entirely free from irritation, and never produces any eruption*, and is, therefore, *to be preferred to all aromatic disinfectants*. It is completely *innocuous to the skin*, and causes *neither hæmoglobinuria like Naphthol nor toxic symptoms similar to those caused by Carbolic Acid, Pyrogallie Acid, &c.* That Resorcin owing to its *extreme solubility*, its *almost total freedom from odour*, and its *lesser toxic power*, and its

want of causticity may be employed in surgical cases in the same manner as Carbolic Acid is used. In a crystal form when applied to the granulating mass it is more efficient in its caustic action than Nitrate of Silver stick ; besides it is *almost painless* unless the surface is specially sensitive. Resorcine possesses also powerfully antipyretic, anodyne, hypnotic, astringent and hæmostatic properties. It is a remedy which may be used internally in all diseases which favour their development, and in which other benzol derivatives have been used. Having thus enumerated its general properties and having compared it with Carbolic Acid and other similar agents, I pass on to give a full clinical description of its various applications in practical medicine, both internally and externally, as follows:—

(1.) *Antipyretic*.—The action of Resorcine in lowering the temperature is *exceedingly rapid, it is very transitory, and the temperature rises again*. It reduces temperature *more quickly* and to a greater extent than any other remedy, renders the pulse slower and firmer, and causes great perspiration. almost like *Pilocarpine*. It lessens the frequency of respiration, and renders the brain clearer when it has been previously dull in consequence of the fever. The tongue becomes moister, and the brown crusts become changed into a yellowish-white fur. As a general antipyretic it is not so good as Quinine or Salicylate of Soda on account of the nervous symptoms which it produces, and which resemble those of quinine. It may be serviceable, however, to cut short a single attack of fever, and may then be given at the commencement of the fit (Sarbeck.)

(2.) *Puerperal Fever*.^{*}—It has been used in over 300 cases of *child-bed fever*, in all cases where the pyrexia attained a certain grade, and almost invariably it produced a marked reduction of temperature, generally to the normal, rarely below, which usually was accompanied by more or less sweating. In some cases this was profuse. The temperature after its reduction seldom remained low longer than a few hours, so that the dose had to be repeated in the evening when a high morning temperature had required its use earlier. The usual dose was three grammes (forty-five grains), which sometimes had to be repeated.

^{*} Dr. Braun's clinic (*Wien Med. Presse*. i. 1883.)

In cases where such large doses cause nervous symptoms, smaller ones are advised to be given and frequently repeated.

(3.) *Malarial Fevers*.—(a.) In *miasmatic diseases* Righi has found it most valuable, in doses of 4 or 5 grammes in 100 or 150 of water, in divided doses daily; the attacks are prevented, and the malarial infection itself destroyed. It reduces recent *splenic tumour*, but has no influence over it when chronic. Righi gives 62 cases in detail.

(b.) *In Intermittent Fever*.—Here Resorcin has a position not far below quinine, although the dose is larger. Ugo Bassi* reports its use in 20 cases, which were all cured except three. In one case the attacks were relieved by the remedy, but it did not prevent recurrence; this happens also with quinine. In all the remaining cases the cure was permanent, the patients being instructed to avoid fresh malarial poisoning. It required only two or three doses of two to three grammes each (thirty to forty-five grains) simply dissolved in water to effect the cure. Larger doses are not necessary. The great advantage of Resorcin over quinine is its cheapness.

(3.) *Anodyne, Hypnotic, &c.*—(a.) *Resorcin acts as a dynamic agent on the centres of the nervous system*. When given to patients suffering from pain and inability to sleep it is an efficient and safe remedy. *It is an infallible and safe hypnotic*. In every instance where it is administered as an hypnotic, it must be given in *toxic doses*, and administration of toxic doses are *not any more injurious, than the consumption of Red Wines* in such cases where Chloral, Morphine, Paraldehyde, Piscidin and other hypnotics† are contraindicated according to others, I find Resorcine indicated, e. g., in *diseases of the Stomach and Bowels, Phthisical patients* especially where larynx becomes involved secondarily. It assists digestion and arrests cough without causing a feeling of dulness of the system as after Morphia. In *Psychical excitement and Delirium Tremens* Resorcine may not be as efficient as Paraldehyde which has yielded excellent results. It produces sleep in a dose of about 30 grs.

* (*Gaz. Med. Ital. Prov. Venet.* 1883.)

† Dr. D. Beaumetz. (P)

(b.) In a case of *Tetanus* it acted as an anti-tetanic like *Curare*, but also as an hypnotic. (c.) In all cases of *paroxysmal colic accompanying cancerous, Tuberculous and other diseases of Intestinal tract, and inability to sleep* it exerts an important action. This is also true of the intense pain of *Vesical and Biliary Calculi* which prevent sleep.

(4.) *Gastro-Intestinal Affections*.—(a) Dr. D. F. Patte has used Resorcine extensively in various forms of Gastric disturbances as eructations of gas due to food lying in the stomach and not acted upon by gastric juice, *in gastric dilatation, and pain and vomiting from same cause, &c.* (b) It is most efficient in *Ulcer of the Stomach* and is given in 5 gr. doses in 1 oz. of water every hour until six doses have been taken. (c) *In Catarrh of Drunkards* it is excellent. (d) *In abdominal pain and feverish conditions of children from improper food, and in Cholera Infantum*, doses of 1 or 2 grs. with one drachm of Infus. Anthemidis every 2 hrs. is found very beneficial. (e) It is useful in diarrhœa of adults in doses of 15 grs. in Castor Oil. (f) In *chronic intestinal catarrh* of children and adults, it is also indicated. (g) Resorcine in doses of 20 grs. in $4\frac{1}{2}$ ozs. of Castor Oil (warm) is recommended to be given as a single dose in the early stage of *Asiatic Cholera*.

(5.) *Whooping Cough*.—(a) In Whooping Cough it will at once arrest the paroxysms of coughing if a 50 p. c. solution is *sprayed upon the larynx* and if this application be kept up every 2 hrs. it will remove it altogether. Or (b) *fumigation of resorcine* by heating it in a metallic vessel, 15 grs. being sufficient for each fumigation, which should be made every 2 hrs., day and night, for 20 days. The patient must also take internally 2 tablespoonfuls daily of a solution of $2\frac{1}{2}$ drms. of Resorcine in 16 ozs. of *Syrup of Turpentine*. Or, (c) half a wine-glassful of a 2 p. c. solution *partly swallowed, and partly used as a gargle* four times a day is very effective and specific.

(6.) *Erysipelas*.—Bogusch has employed Resorcin hypodermically in four cases of Erysipelas, in the form of an aqueous solution, five per cent. The injections were made along the erysipelatous line at distances of about one half-inch apart, the needle being directed towards the diseased structures. In the four cases, 29, 36, 67 and 70 injections were made, no other agents being used. The results were a rapid fall of temperature and arrest of the disease.'

Dr. Skibnevsky reports two cases of erysipelas in which subcutaneous injections of a five per cent. solution caused a rapid disappearance of the symptoms. From ten to twenty injections were made at one time into the affected area, and in each case they had to be repeated only once. It is worthy of notice that in both cases, within about two hours after the injection, not only did the fever disappear, but the temperature fell even below the normal.

(7.) *Diphtheria*.—Resorcine locally applied as well as internally administered is invaluable in cases of Diphtheria. A solution of 3 parts of Resorcine in 30 parts of Glycerine to be painted on every hour night and day to the diphtheritic membrane and surrounding parts, and atomization of a solution of 1 part of Resorcine and fifty of water may also be made continuously in the room with a Lister's spray apparatus. Internally give 30-50 grs. of Resorcine in 24 hrs.

(8.) *Sea-Sickness and Vomiting*.—(a) From 10 to 20 grs. of Resorcine given early is stated by Amstreer to prevent the nausea and giddiness of persons liable to *sea-sickness*, enabling them to sleep comfortably, and really promoting appetite and digestion. (b) Dr. Andeer reports a number of cases which seem to prove purified resorcine to be a valuable remedy for arresting vomiting, even after other drugs have failed. It was administered internally in doses of 45 grs. and at once arrested *emesis* as well as facilitated digestion. I think the dose given by Dr. Andeer is rather large; one of 12—24 grs. is usually quite sufficient.

(9.) *Throat Affections*.—It is a very good remedy in *Acute Tonsillitis*, in *Eczema of the Throat* and in *Catarrhal irritation of Fauces*. One-per cent. solution used as a gargle is effective in removing the mucus which coats the membrane of throat in catarrhal conditions.

(10.) *Otorrhœa*.—In *obstinate cases of Otorrhœa* where Boracic Acid fails, Resorcine is a proper remedy. First clean the meatus by an absorbent cotton and fill it completely by a powder composed of one part of Resorcine to 20 of Boric Acid; or instead of the powder, you can use a 5 p. c. solution of simple Resorcine with good effect. In this manner 15 cases were treated. If ointment be used the strength is 24 grs. to an ounce. I always use in such obstinate cases Resorcine mixed with Boric Acid with success. If used pure it causes considerable pain.

(10.) *Laryngeal Tuberculosis*.—In laryngeal ulceration of a tuberculous kind the application of a 10 or 20 per cent solution of Resorcine greatly relieves the pain, especially if a 2 per cent solution be also prepared and used as a *spray*.

(11.) *Venereal Affections*.—(a.) In *obstinate syphilitic ulceration*, Dr. Bombin first cauterizes the surface of the sore with the 50 per cent solution, and then applies the 10 per cent solution night and morning till the eschars are separated, and afterwards the 5 per cent one till cicatrization is complete. In Dr. Bombin's opinion, Resorcin is a valuable local application for *chronic tertiary ulcerations*, exerting on them a distinct curative action. (b.) In *Bubo*, a 5 per cent solution injected into the abscess, and a plasma, composed of 1 part of Resorcine to 8 of Glycerine applied externally are useful.

(c.) *Chancroids* heal more readily under the action of Resorcin than any other remedy. M. M. Labland and Fissieux report six cases of soft Chancres in women treated by the application of Resorcin in powder or solution. The formula of the solution recommended is five grammes (75 grains) of Resorcin to 20 grammes (5 ozs. of distilled water). The average duration of the six cases under this treatment was twenty-three days, whilst in five cases treated with iodoform the average duration was thirty-eight days. Resorcin is said to cause but slight pain, which usually disappears rapidly. The entire absence of odour gives this drug a great advantage over iodoform, to which indeed the authors consider it in all respects superior as a dressing for soft sores.

(d.) A 5 per cent solution forms a valuable non-irritating injection for *Gonorrhœa and for Urethritis*.

(12.) *Dermatology*.—Although Resorcine in any form is not absorbed by the healthy unbroken skin, the contrary is the case when there is any morbid action going on in the skin, as in *Lepra*, *Rupia*, *Variola*, *Scarlatina*, or *Erysipelas*, in which it both stains the skin and discolours the urine. In cases of parasitic diseases of the skin its use has been attended by remarkable success (skibnevsky.) It is quite beneficial in *Acne Rosacea*, and some forms of *Eczema* and such other forms of skin disease, which have redness and burning as their characteristic symptoms, and is employed as a lotion made up of 5 parts of Resorcin to 2 parts each of Glycerine and Water.

(13.) *Carbuncles and Boils*.—Solution of Resorcine in glycerine (1 to 8) is effective in the local treatment of Boils and Carbuncles. Dr. Justus Andeer has reported a case of carbuncle in which bacilli were detected, and a guinea-pig being inoculated with the pus died of septicæmia. Other remedies had been used locally without much result, when a fifty per cent. Resorein-vaseline salve was applied rather freely upon the pustular erysipelatous surface of the fore-arm, covered by a gauze bandage. A good diet was given. After this the pain and tension diminished; the surface rapidly assumed a more healthy appearance and the eruption soon healed.

(14.) *Orchitis and Epididymitis*.—As a local application Dr. Bombin has had very good results in Orchitis and Epididymitis with a 6 per cent. solution.

(15.) *Cystitis*.—Dr. J. Andeer reports extensive use of Resorcin in *acute and chronic cystitis*, and claims for it almost *specific curative power*. He reports 156 cases, where either by him, or to his personal knowledge, it was injected into the human bladder with the best results in vesical catarrh.

Acute cases have been entirely cured by the injection of a five per cent. solution. Dr. Bombin uses a 1·5 or 2 per cent. solution with good effect to wash out the bladder, but he considers that it acts in these cases as a *local disinfectant*.

(16.) *Condylomata, Warts, &c.*—Dr. G. I. Gatchkovsky successfully treated three cases of *warty excrescences (cauliflower)* on the penis by the application of finely powdered Resorcin, twice a day. The new growths invariably disappeared within two or three days, leaving no trace. The author insists on the necessity of using Resorcin of pure white colour, since the brownish preparation possesses strong irritating properties.

(17.) *Rectal affections*.—It is very useful in *Hemorrhoids, Fistula and in Abscess of the Rectum*. The abscess and internal hemorrhoids may be treated with Resorcin in the form of suppository.

(18.) *Obstetrics and Gynæcology*.—(a) In Obstetrical cases the *puerperal symptoms can be arrested by internal and local use of remedy*. Introduced into *vagina* after parturition its *antiseptic* action on the lochial discharge renders it *harmless if absorbed into the system*.

(b) A 50 p. c. solution applied internally to the uterine cavity by means of cotton-wool wrapped round the probe is beneficial in *Ulcers of the Cervix Uteri, in Chronic Endometritis and Uterine Catarrh*. (c) It is quite as useful in *Acute Vaginitis, and in Gonorrhœa and Urethritis* in female just as in male; placed into the vagina as a plasma in Glycerine (1 to 8) it arrests Vaginal, Leucorrhœal and Gonorrhœal discharges. (d) In *Epithelioma of the Cervix Uteri* its action does not seem to differ at all from that of Carbolic Acid.

(19.) *Antiseptic Surgery*.—It is applied locally as an anodyne in *Injuries* just as in *Inflammations*. A one per cent. solution is an useful *surgical dressing*. In *Cuts and Bruises* an ointment of 30 grs. of Resorcine to an ounce of Vaseline is very useful.

(20.) *Burns*.—The above ointment is nice for *Burns*; and in making this ointment a little water should be added to Resorcine to have it mixed thoroughly.

(21.) *Anodyne Caustic*.—It destroys diseased tissues *thoroughly and painlessly* and is recommended as a caustic for *Cancerous and Syphilitic sores* of the mucous membranes, and other growths, &c.

(22.) Lastly, a one per cent. solution makes a good lotion for *conjunctivitis*. In *Varicose Ulcers* it is used in Glycerine plasma (1 to 8).

(23.) *Toxicology*.—In case of an overdose of Resorcine, first administer an emetic, then Olive Oil internally and Atropine Hypodermically. Red wines, especially the good vintages of Bordeaux and Burgundy may also be given.

Doses.—15 to 20 grs. for an adult, but larger quantities upto 45 grs. are often given; 30 grs., as an *hypnotic*, for an adult.

RHUS AROMATICA.

Syn.—*Fragrant Sumach, Sweet Sumach, Stink Bush, Skunk Bush.*

Part used.—*Bark of the Root.* N. O. *Anacardiaceæ.*

Habitat.—*United States.*

Characters.—It belongs to the sumach family, and the third species of *Rhus*. To the first class belongs the non-poisonous variety, of which the *Rhus Glabra* is a sample; to the second class belongs the

poisonous variety, of which *Rhus Toxicodendron* is a sample, and the *Rhus Aromatica* forms a species by itself. It grows abundantly in Central Missouri and inhabits high rocky soil. It is a shrub growing from 2 to 6 ft. high ; stems straight, branching near the top ; flowers yellow ; fruit clustered, red, seedy and acid. When the bush is fractured it emits a strong odor whence it takes its name.

History.—J. T. McClanahan, M.D., Brownville, Mo. first brought this valuable remedy to the notice of the Medical profession in 1879. He says ;—“This remedy was successfully used by my grand-father, Dr. John Gray, for over thirty years as a sovereign remedy in the treatment of diabetes, and to this use alone he confined it, and for many years after was used in the same capacity by my father, Dr. F. McClanahan. He it was, I believe, who first suggested its use in other diseased conditions of the genito-urinary organs. My grandfather also successfully used it in albuminuria. A few years since when I was a student, Mr. A., æt. 27, came under my father’s treatment, with all the symptoms of diabetes insipidus. Under the influence of teaspoonful doses of the powdered bark of the root given in a wineglassful of sweet milk he made a complete recovery in four months, and to-day enjoys good health.

Therapeutical properties.—*Rhus Aromatica* is tonic, astringent and diuretic. It possesses *specific powers in nocturnal incontinence of urine, whether in young or old.* ** In retention of urine, in the irritability of the sphincter giving rise to involuntary urination, in painful micturition not associated with positively acute specific inflammation, in cases in which urine is loaded with mucus and even pus, in all these conditions *Rhus Aromatica* is valuable, *while its action in restoring tone to the sphincters places it very high in the list of remedial agents.* * It fills a place heretofore unoccupied by any drug, hence in adopting its use, we do not discard old remedies that we can swear by. I introduced this remedy as one having special affinity for the *genito-urinary organs*, therefore, in all *excessive discharges* of these organs, accompanied by a relaxed condition of the same, it is applicable. As a remedy for *diabetes* it has been tested by several physicians, they

** Jas. M. Hole, M. D., Salem, Ohio. 1881.

* J. T. McClanahan, M. D. (New. Preps. 1879).

universally admitting it to be far superior to anything they had ever used, given in doses of ten to twenty drops three or four times a day, observing the usual dietary laws for this disease. *Enuresis in both children and old persons* will be promptly met by the action of the *Rhus aromatica*. It is as near a specific in *bed wetting* of debilitated children, as quinine is for ague, and that troublesome condition often met with in old persons, an inability to retain the urine or where there is a *constant dribbling* of the same will be relieved. Adults five to ten drops, children two to five drops every four or five hours. *Hemorrhage from the kidneys, bladder, or uterus* will promptly yield, and with a certainty not exhibited by any remedy I have ever used, under the following conditions: Feeble pulse, cold extremities, inelastic skin and pale, tallowy face; dose of saturated tincture or fluid extract five to twenty drops repeated as often as necessary. I rarely use any other remedy in my obstetrical practice to control hemorrhage. It is also useful in other uterine discharges. In *summer diseases of children* it is an admirable remedy.

This action of *Rhus Arom.* on the economy can be clinically illustrated as follows:—

(1.) *Diabetes*.—Some months ago I was called several miles from my office to see a lady who was said to be in a critical condition by her physician and friends. The history of the case revealed the fact that several months previously her attention was first attracted by frequent calls to urinate, and that she was compelled to get up at night to void large quantities of urine; this condition of things had been steadily increasing, until she was compelled to abandon her household duties. The urine contained sugar, sp. gr. 1031. I left an ounce vial of a saturated tincture of *Rhus Aro.*, and ordered her to take 10 drops every 4 hrs., and report in a week. At the expiration of that time, her husband reported that the amount of urine voided was greatly diminished, and she appeared greatly improved in every respect. The dose was lessened and the interval lengthened from week to week, and finally in three months, the medicine was discontinued. In the meantime strict dietary laws were observed. I have had the same result in two other cases of diabetes insipidus and am treating a case of diabetes mellitus with success (J. T. McClanahan, M. D.)

(2.) *Enuresis*.—In incontinence of urine, *whether from atony of the muscular, or irritation of the nervous fibres, which prevents normal distention of the bladder*, it is applicable. I have relieved several cases in which the person was *unable to prevent a constant dribbling of urine* the condition rendering them offensive and uncomfortable also, those cases in which the patient *has no control over the urine* whatever, will be promptly met by the action of the Rhus Arom. Elia D., had suffered from enuresis for two years. Her mother said she seemed to have little or no control over her urine at times, and that it was no uncommon thing for her to wet the bed at night, and herself during the day. She further stated that she had tried almost every physician and remedy within her knowledge, but without any permanent benefit. I accordingly ordered :—R. Tr. rhus arom. z ss. Glycerine, z iss. M. S. Half teaspoonful three times a day, and to be careful to have her void her urine before retiring, and to have her get up immediately when she felt an inclination to urinate. As the case progressed, I ordered her to discontinue the morning dose, then the dose at noon, and finally the dose before retiring. At the expiration of three months all involuntary flow had ceased and sufficient time has elapsed for me to pronounce the cure permanent.

(3.) *Diarrhœa and Dysentery*.—Rhus Arom. is indicated in cases calling for a remedy containing an astringent. Hence in bowels diseases where the pulse is much accelerated, patient restless, skin dry and hot, Rhus. Arom. is inadmissible. The conditlons to which it is applicable are :—profuse stools, cool and sallow skin, small and feeble pulse, loss of flesh, abdomen flabby, pale, trembling and moist, trembling in lower limbs, general sense of lassitude and languor ; dose for infants, 10 to 20 drops in half a wineglass of water, and of this a teaspoonful to be given as often as necessary.

CASE 1.—Mr. C. laborer on railroad, called June 5, stating that he *was passing almost clear blood from his bowels*, and that his powers were giving away so fast that he could hardly walk ; patient presented the usual *characteristics of dysentery* ; countenance anxious, face pale, bowels flabby. Prescribed rhus aromatica oz. j. fifteen drops after each stool, with boiled milk diet ; no other medicine necessary. Made a complete recovery in four or five days.

CASE 2.—Whillie V. The father of this little boy called June 19th, stating that his little son was suffering from *diarrhœa* and that he *had a stool as often as every hour*, which gushed from him like water ; no particular pain or fever, but that he was very pale and weak. I gave him *rh. arom.* oz. ss.; and ordered it to be given in five drop doses every hour. or after every stool at least ; and with proper care and diet, the little boy recovered rapidly. The history of the next seven cases treated with this remedy were similar to those above. Suffice it to say, that they were cases calling for a remedy containing an astringent. (J. T. McClanahan, M. D.).

(4.) *Hemorrhages and Excessive Mucous Discharges* :—The great superiority of this remedy in the treatment of diabetes and enuresis led to its use in other abnormal conditions of the *urinary and genital organs, viz., hematuria, Uterine Hemorrhage Menorrhagia, Leucorrhœa and other Excessive Discharges, accompanied by a relaxed condition of the uterus.* My father, Dr. F. McClanahan, uses this remedy largely in all active and passive hemorrhages, whether from lungs, kidneys, bowels, or uterus, and his experience is that there is no remedy of greater efficacy in the treatment of hemorrhage of the kidneys and uterus, especially *post partem* hemorrhage. Furthermore, after twenty-five years' experience with the *rh. arom.* he is very emphatic in saying that the curative powers of the remedy for each of the above described conditions cannot be too highly estimated.

(a.) *Hæmaturia*.—I have found this remedy to act well in hematuria arising from various causes it will be found a fine remedy in hemorrhage of the kidneys arising from a general debility, that form which sometimes precedes Bright's disease. (J. T. McClanahan, M.D.) Chas. A. Baldwin, M.D., administered it to a patient suffering from hæmaturia and chronic cystitis, after the complete failure of the ordinary remedies used in cases of this nature—ergot, gallic and sulphuric acid, and *tinctura ferri chlor.*—with excellent results, controlling the hemorrhage in forty-eight hours. Continued the remedy in conjunction with small doses of extract *sarasparilla* and benzoic acid for three or four weeks. The patient has gained steadily under this treatment and says that he has not felt as well in several years as he does at the present time.

(a.) *Pulmonary Hemorrhage and Bronchorrhœa*.—Although in advanced cases of Phthisis we do not expect to effect a cure but I simply wish to call attention to the promptness with which the Rhus Arom. met the *hemorrhage, night-sweats and diarrhœa* in a case—Rudolph B.—suffering from advanced Phthisis Pulmonalis. When I was called, were prominent hemorrhages, night sweats and diarrhœa ; for these conditions I prescribed, 15 drops of Tr. Rhus Aro. every hour. Next morning was happy to find hemorrhage controlled and diarrhœa improved. I then ordered the dose lessened to 5 drops and interval lengthened as necessity required. In a few days diarrhœa and night sweats were so far controlled as to discontinue the Rhus. (J. T. McClanaham, M.D.) Rhus has also considerable affinity for the m. m. of the bronchial tubes, relieving irritation and lessening excessive expectoration and soothing the cough in a marked manner. (J. M. Goss, A. M., M.D., Ga. 1880).

(c.)—J. T. McClanaham has used it satisfactorily as an injection in *Leucorrhœa*. It has also been used in *Gonorrhœa* to some extent, where a remedy is indicated containing an astringent. It will often check hemorrhage resulting from *fall, blows, calculus, &c.*

(d.) *Hyperhidrosis*.—Many cases of *debilitating night sweats* resulting from other diseases will be promptly met by ten to twenty drop doses of Rhus Arom. at bed-time. A case of a lady very much emaciated and debilitated from a protracted illness caused by a complication of diseases, was successfully treated by J. A. Munk, M.D., by half drachm doses each of Tr. Rhus and Glycerine every 4 hours.

(e.) *Purpura*.—M. P., æt 23 years, of a sanguine temperament presented a well marked case of *purpura hemorrhagica*. The eruption was of a bright scarlet colour, appearing on various parts of the body. A teaspoonful of a mixture of Tr. Rhus and Glycerine. â à partes equales was ordered every 4 hours and there was a decided improvement after the second day (J. A. Munk, M.D.)

(f) *Obstetrics and Gynæcology*.—In obstetric practice Dr. McClanaham uses it in same capacity as Cinnamon, Erigeron, Ergot. &c., the dose varying from 5 to 20 mins. of the tr. according to the urgency of the case. He pronounces the Rhus Aro. a remedy among the first in obstetric practice, because he has many times relied

upon this remedy alone. He has successfully employed it in both the *Active and Passive forms of Menorrhagia*. I give only one illustration of this. He was called to Miss. S. April 3, 1878 ; blonde, spare made, aged 23. She was suffering from passive hemorrhage ; patient stated that she menstruated every two weeks for some time, and in profuse quantities. She was very weak, with cold extremities and much reduced, had giddiness, &c. He put her upon 15 drop doses every 3 hours, which soon had the effect of controlling the abnormal discharge. He then put her upon Iron, Phos. Acid, Cimicifuga, and Helonias, in alternation, from time to time, and she completely recovered. At each catamenial period, he used the Rhus as long as necessary, using the above during intervals.

On September 27, he was called in great haste to a case *Abortion*, messenger stating that Mrs. H. was "*flooding to death*." He forthwith went and found a chamber containing about 2 quarts of blood and an imperfect foetus, which had passed an hour before his arrival. He made an examination, and found the os dilated and flabby, pulse feeble, skin and extremities cold, &c. He first gave a stimulant, then administered tr. rhus. aro. in doses of 10 drops every fifteen minutes ; also saturated a piece of raw cotton with a solution containing 20 per cent of the tr. and pressed gently against the os uteri, at the same time gently kneading the abdomen until the uterus appeared to contract. After 2 hours the hemorrhage had ceased, and his patient was comfortable. He then ordered the rhus to be given every 2 hour ; after 6 hours he removed the cotton without any return of the hemorrhage.

The above, I believe, completes the range of action of the Rhus. Arom. on the economy. In offering this remedy to the profession, I do so from a firm conviction that it has great power over certain processes of disease, as already described which will render it a valuable addition to our materia medica.

Preparations and doses.—Pd. Root-Bark, 5 to 60 grs.

Fl. ext. 5 to 30 mins. solid ext. 1 to 5 grs.

Tr. (1 to 5 Rect. Sp.) 5 to 30 mins.

RHUS TOXICODENDRON.

Syn.—*Poison-Oak, Poison-Ivy.*

Part employed.—*The Fresh Leaves.*

N. O.—*Anacardiaceæ.* *Habitat.*—*North America.*

Characters.—Long-petiolate, trifoliate; the lateral leaflets sessile, about four inches long, obliquely ovate and pointed; the terminal leaflets stalked, ovate or oval, pointed, with a wedge-shaped base; the leaflets variously notched, coarsely toothed or lobed, downy beneath; when dry, papery and brittle; inodorous; somewhat astringent and acrid. The fresh leaves abound with an acrid juice which darkens on exposure to the air, and, when applied to the skin, produces inflammation and swelling. The leaves should therefore not be touched with bare hands.

Therapeutical properties.—It is stimulant, resembling, in some respects strychnia in its action. It is a favourite remedy with eclectics and homœopathists for years, and principally in *Rheumatic troubles of chronic and inflammatory nature*; the homœopathists use it in infinitesimal doses, 1/10 to 1 min. It is serviceable in *Rheumatic affections, Erysipelas, Herpes, Eczema and other skin diseases.* Dr. Powell speaks very highly of the value of *Rhus* in connection with the *pain and annoyance* attending the presence of *hemorrhoids.* *Local irritations and varicose veins* are wonderfully subdued.

Preparations and Doses.—Pd. Leaves, $\frac{1}{2}$ to 1 gr.

Tinct. Strong (Fresh Leaves 50 to Alcohol 100: this makes the strength of tr. 1 to 6), $\frac{1}{2}$ drop.

Tinct. Dilute (Strong Tr. 1 to Dil. Alcohol 9), 5 drops, which are equal to 5 drops of the ordinary Tr. of pharmacopœia. (Dr. John Aulde M.D.)

Tinct. Homœopathic (1 to 4), $\frac{1}{2}$ to 1 to 5 drops.

Tinct. of dried leaves (1 to 8 Pf. Sp.) 1 to 5 drops.

RUBUS CHAMÆMORUS.

Syn.—Yellow Raspberry, Cloudberry.

Parts employed.—The Flowers and Leaves.

N. O.—Rosaceæ.

Habitat.—Europe.

Therapeutics.—In the North of Russia the infusion of yellow raspberry enjoys considerable popular repute as an excellent *diuretic*. It acts on the kidneys without influencing the beat of the heart. From experiments conducted recently in one of the medical clinics at St. Petersburg and by other eminent physicians, it has been ascertained that the flowers and leaves possess well marked *diuretic* powers. The patients to whom the infusion of the leaves was administered were suffering from various forms of Nephritis, Cirrhosis of the Liver, Cardiac Affections, Chloro Anæmia with Hysterical Epilepsy, with palpitations of the heart, &c.

Preparations and Doses.—Inf. (Leaves 16 to boiling water 110 parts), 5 to 6 teaspoonfuls per day.

RUMEX CRISPUS.

Syn.—Yellow Dock ; Sour Dock.

Part employed.—The Root.

N. O.—Polygonaceæ. *Habitat.*—Europe and United States.

Characters.—From 8 to 12 inches long, half an inch thick, somewhat fusiform, fleshy, annulate above, deeply wrinkled below ; rusty-brown externally ; internally whitish, with fine, straight, interrupted, reddish medullary rays, and a rather thick bark ; odor slight, peculiar ; taste bitter and astringent.

Therapeutical properties.—It is alterative, resolvent, detergent, anti-scorbutic ; also mildly astringent and laxative, much like *Rhubarb*. It manifests its influence particularly on the *lymphatic and glandular systems* and is tonic to the secondary digestive process. It has been largely used in combination with other alteratives in the treatment of *Syphilitic, Scrofulous and Cutaneous Affections*. It is also indicated in *Rheumatism, Scorbutus, Salt Rheum, Leucorrhœa*. A decoction of the root is useful in hepatic disorders,

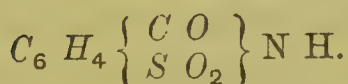
and for purifying the blood. In cancer, a decoction of the root is drunk freely and a poultice of the fresh root is laid on the cancer. An ointment made of the fresh roots, has a high reputation for curing the itch, or other skin diseases. The powdered root is an excellent *dentrifice*, especially for spongy gums.

Preps. and Doses —Pd. Root, 20 to 60 grs.

Fl. Ext., 30 to 60 mins; Solid Ext., 3 to 10 grs.

Rumicin (concentration), 2 to 4 grs.

SACCHARIN.



Syn.—Benzoyl-Ortho-Sulphonic-Imide; Glukusin, Neo-Saccharin.

Characters.—Saccharine, a derivative of Toluene (Coal Tar), is a white powder, of acid reaction, soluble in 1100 parts of water at the normal temperature, in 840 parts at 212° F., and little more in alcohol, ether, and glycerine, but very soluble if combined with alkalies, either canstic or carbonated. It has an *intensely sweet taste* which,, according to the latest experiments, is about 190 times that of cane sugar, or 235 times when combined with an alkali. It is said that a dilution of 1 part in 10000 parts of water has still a very sweet taste, very much like that of sugar, together with a peculiar by-taste like bitter almonds. Solution of sugar loses its sweetness in a dilution of 1 in 250 parts. Saccharine can still be faintly tasted upto a grain dissolved in about 10 pints of water (1 to 70000); while one grain of sugar can be detected at the utmost when dissolved in half an ounce of water. Mixed with about 10 per cent. of carbonate of sodium, it forms what is now largely sold as "*Soluble Saccharin*," which readily dissolves in water or other fluids.

Physiological actions.—Saccharin is quite innocuous when taken in quantities largely exceeding what would be taken in any ordinary dietary; on man doses of 75 grs. produce no abnormal effect. It does not arrest or interfere with the normal fermentative action of the animal secretions in the stomach or intestines. It is without

action on ptyalism or pepsin, and has no secondary action on the digestive secretions, passing unchanged out of the system through kidneys in the urine, in which it is found within half an hour after its ingestion in whatever way. So rapidly does it pass out of the body whether injected by the skin or into the intestines, that it is not even found in the mammary secretion. It had entirely disappeared from the system within twenty-four hours even when a dose of 75 grs. had been given. Saccharine exerts a powerful retarding influence upon alkaline fermentation of urine.

Therapeutical actions.—Saccharin has *extraordinary sweetening, and antifermentative and antiseptic properties*. While producing no injurious effects upon the system, it is found to agree both with invalids and healthy individuals, and no anxiety as to its effects upon the healthy need be felt, even when taken for lengthened periods. As much as 30 to 80 grs. have been given daily without producing any injurious effects even upon the appetite, and is excreted in the same state as it is ingested. Saccharine may therefore be said neither a Food nor a Poison, but from its peculiar properties as just mentioned, it may, firstly, beneficially replace sugar in the diet where the latter is contra-indicated, *as in certain morbid states of the system to be presently described*; secondly, *as a sweetening agent, or corrective for the taste of bitter and nauseous medicinal substances*; and thirdly, *as a therapeutic agent in cases of cystitis from various causes, &c.* All these various uses of saccharine can be described as follows:—

(1.) *The exhibition of saccharine appears to be indicated in the following class of cases.

(a.) In all cases of *Diabetes Mellitus*. It being in no sense a food exerting no influence upon the formation of sugar it must undoubtedly prove a great boon to diabetic patients lessening the misery of their condition by enabling them to take more palatable food. Tea, coffee, milk, &c., of such patients may be sweetened with a grain or two of saccharine with little carbamate of soda. It may also be added to jellies, puddings, and other food of such patients. It is indicated in all those transient *Glycosuric*

* Dr. Constantin Fahlberg.

states, in which there are distinctively fermentative tendencies in the blood, as for example, in *Epidemic Furunculus and Anthrox*, and as we find frequently proved by the *Boils or Carbuncles* of *Diabetes Mellitus*.

(b.) In those *dyspeptic states* attended by derangement of the gastric secretion and in *fermentative disturbances* of the digestive tract where intestines are the seat of *abnormal fermentation and acidity*, when sugar and carbohydrates are contraindicated as *Indigestion, Chronic Dyspepsia, Gastric Catarrh and Dilatation*

(c.) In all cases of *Hepatic enlargement* attended by *periodic or chronic congestion*, due to sojourn in tropical climes ; and with imperfect or impaired digestion due to *Torpid Liver and in Biliousness*.

(d.) In the various cases of *Bright's disease*, and in renal disorders which may probably have their origin in inefficient action or morbid state of the liver.

(e.) In most, if not all, forms of a marked *Gouty Diathesis*.

(f.) In *senile affections*, in which various Bladder and *Genito-Urinary* disorders occur. In those cases especially are found those *Cystic complications* where ordinary sugar food is most objectionable, and where, indeed, its use has to be greatly restricted.

(g.) In *General Obesity*, and in those cases in which fat is proved to be abnormally developed in the internal organs.

(h.) In many of the *affections of children*, attended by *impaired digestion, and hepatic derangement, and in chronic Glandular and Eczematous affections in children*.

(2.) *Corrective for the Nauseant and Bitter Medicines*—It is useful for disguising the taste of nauseant drugs as *Salicin, Cascara, Nux Vom., Quinine, &c.* For the convenience of prescribing *Saccharine* for this purpose in medicinal preparations, the best form is the *Elixir Saccharinæ* 20 mins. of this Elixir contains 1 gr. of *Saccharin*, sufficient to flavour a 4 ozs. mixture. 5 mins. of this elixir is equal to 1 dr. of *Syrup Simplex, B. P.* (a.) Equal parts of this *Sp. Sacch.* and *Fl. Ext. of Cascara Sagr.* are tasteless. (b.) Half a drachm of *Sod. Salicyl.* is rendered tasteless by 30 ms. of *Sp. Sacch.* (c.) *Compound Liquorice Powder and Syr. Ferri*

Iodi are made permanent and well disguised by substituting saccharine for ordinary sugar. (*d.*) It corrects the bitter taste of Quinine particularly if one grain of it be added to 2 grs. of the latter. (*e.*) A mixture of 6 drs. of Tr. Ferri Perchl. requires 2 drs. of a 4 per cent solution of Sacch. or in other words, half a grain of Sacch. for dr. 1 of Tr. Ferri Perchl. (*e.*) Saccharin enables many medicinal confections, powders, and lozenges to be given in small bulk. (*f.*) It improves the taste of wines, elixirs, &c.

(3.) *Cystitis*.—Saccharine in doses of 5 grs. thrice a day, promptly changes the reaction of alkaline urine to uric acid and does away completely with the offensive odour; with this the irritation of the bladder becomes less and the formation of pus is diminished in cases of Cystitis depending on various causes. Here it acts partly by its antiseptic properties and partly by its acid properties.

(4.) *Antiseptic and Antifermentative*.—Recently Saccharine has been credited with distinct antiseptic properties, although it is inferior to Benzoic and Salicylic Acids in this respect. As it is not liable to ferment it will yield permanent preparations in place of those made with Sugar, which would frequently spoil, especially in hot climates.

(4.) The following are the conclusions on the action of Saccharine as drawn from latest experiments:—

Ordinarily it passes away unchanged through the medium of the urine, but in certain morbid conditions of the animal economy at present not well understood—saccharine is more or less decomposed. It is stated to be absolutely innocuous when taken internally, even in comparatively large quantities and for a length of time, but there seems to be a question, whether when thus given, it does not in a few cases encounter dyspeptic symptoms. In a discussion at the Academie de Medicine, M. Dujardin, who had experimented largely with the drug, found no untoward symptoms following its administration. M. Worms reported that he had observed signs of dyspepsia. Dr. Stadelmann experimented, at the manufacturer's request, on eleven patients, ranging in age from fifteen to thirty-five years, giving them daily from forty-five grains for two or three weeks at a time. It agreed perfectly with nine; two exhibit-

ed signs of dyspepsia. The possibility of such an occurrence is seemingly reduced to almost nothing if the amount of Saccharin given daily be small—say a gram to a gram and a half.

Preparations.—(1.) *Elixir*: R Sacch. grs. 24 + Sod. Bicarb. grs. 12 + Sp. Rect. dr. 1 + Aq. Dest. 7. M. 20 mins = 1 gr. of Saccharine.

(2.) *Soluble Saccharine*.—(Strength 90 per cent)—Saccharine rendered soluble by treatment with Carbonate of Sodium. Soluble Saccharin is equal in power to about nine-tenths of its weight of commercial pure Saccharin.

(3.) *Saccharin Tabloids*.—Each contains $\frac{1}{2}$ gr. saccharine in combination with soda. One or two are sufficient to sweeten a cup of tea, coffee or cocoa, &c.

SALIX NIGRA, (*Marshall.*)

Syn.—*Black Willow*, “*Pussy*” *Willow*.

Parts employed.—*The Bark and Buds (Aments or Catkins.)*

Habitat.—*Usually along the banks of streams in the Southern States of America; most common in the basin of the Mississippi River.*

Characters.—A tree growing from fifteen to twenty feet high, with branches very brittle at the base. Leaves, narrowly lanceolate, pointed and tapering at each end, serrate smooth (except on the petioles and midrib) and green on both sides; stipules small deciduous; scales short and rounded, wooly; glands large, of the sterile flowers cleft, of the fertile kidney-shaped; stamens 3 to 6; pods mostly short-ovate. Catkins are peduncled (long and loose) and borne on the summit of lateral leafy branches of the season, appearing in May and June; filaments hairy below; ovary stalked, glabrous. The wood is light, soft, weak, close-grained, checking badly in drying, medullary rays obscure; colour, brown; the sap-wood nearly white.

History and Early Uses.—*Salix Nigra* was much employed at one time as an antiperiodic and febrifuge when the cinchona bark alkaloid was much dearer than it is at present. The bark in this case was the part used, doubtless on account of the large quantity of Salicin it contains. It owes its present position as a remedy to an article which was read before the Texas State Medical Association, by Dr. F. T. Paine of Comanche, Texas, in April 1880, which is as follows:—

“In bringing before you for your consideration, I do so after mature reflection and a careful study of its necessity, and of its actual value as a therapeutic agent in an active practical use of it for five years. The first opportunity I had of trying the remedy was in the case of Mr. McC., who applied time and again for undefinable symptoms referable mostly to the genito-urinary organs with a general neurasthenic state of the system. For weeks we failed to diagnose the case, until I asked after his sexual passions and indulgences, when he candidly confessed that his desires had never been and could not be satiated, that he copulated six times every night, and still was unsatisfied. His health was much impaired in consequence, as was also that of his submissive spouse. I had only four ounces fl. ext. *salix nigra*, the first sample I had ever seen, I handed it to him, with directions to take a teaspoonful three times a day. At the end of ten days he came with his report. It was this. “I can hardly go to my wife one time a week now.” You may be sure I was ready to exclaim “Eureka! Eureka!!” This occurred in 1880. Since then I have not failed to use it as a sexual sedative, &c.”

Physiological actions.—*Salix Nigra* seems to have a direct and specific action upon the *testicular organs of the sexes*, and on the *nerve supply of the sexual apparatus* in both male and female. It appears to be an analogue of the *Bromides* but without the depressing effects of the latter. It is also an analogue of *Conium*, but without its paralyzing effects on the nervous system. It acts in many respects similarly to *Hydrastis*. It has the same tonic power and probably acts on the *arterioles* by shutting off an undue amount of arterial blood, although no such experiments have been made with it on animals as have been made with *Hydrastis*.

Therapeutical actions.—(1.) *Salix Nigra* is a true sexual sedative of decided value, similar in its action to bromide, but without its depressing qualities. It has a direct and specific action upon the testicular organs of the sexes, reducing *hyperæmia and hyperæsthesia*. This condition of hyperæmia and hyperæsthesia is agreed upon by common consent to obtain on the approach and during the œstival of animals and catamenial epoch in the human female, and the reduction of this state is the philosophy of the use of *Salix Nigra*. It is strongly recommended to be used in all sexual disturbances of a hyperæsthetic nature. It yields excellent results in cases of Ovarian Hyperæsthesia, Hyperæmia and Enlargement; Dysmenorrhœa, Uterine Neuralgia, Dyspareunia, Nymphomania, Masturbation, Excessive Venery, Prostatorrhœa, Spermatorrhœa, Enforced Continence, Nocturnal Pollution, Urethral Neuralgia, Nervous and Periodical Headaches and Neurosis. Its other properties, for which it has not been at present employed, are tonic, carminative, stimulant, astringent and antiperiodic. *Salix Nigra* is very efficient as an *Anaphrodisiac*, and as a *Calmative in Sexual, Urinary and some Uterine disorders*, which will be clearly understood from the following clinical reports on the drug :—

(1.) *Ovarian and Uterine Disorders.*—*Salix Nigra* exercises a powerful influence in suppressing the pains of pathological ovaria. It speedily relieves hyperæsthesia and hyperæmia of the ovary. I have found in nearly every instance the left ovarium diseased. In all cases of ovarian disease I have found in which I could obtain the state of sexual propensity, there was nearly or absolutely none. That having used it for five years I have as much confidence in its virtues as you or I have in calomel or quinine in appropriate cases. It is useful in ovarian pain during or previous to menstruation.

CASE 1.—A lady, aged 35, suffered for sixteen years with Dysmenorrhœa. Her sufferings were extreme, and she had been under the care of many physicians. I made a diagnosis of Ovarian Neuralgia, and prescribed *Salix Nigra* buds, with the effect of bringing relief at the end of a month's treatment.

CASE 2.—Another lady, 33 years of age, applied for uterine treatment, but an examination of her case convinced me that her

case was of Ovarian origin. Teaspoonful doses of the fl. ext. of *Salix Nigra* buds were administered thrice a day. After a four-ounce bottle had been taken she reported herself entirely relieved of the pain for which she had consulted.

CASE 3.—A case of Dyspareunia in a female in which the marital act used to give her great pain was benefited by ten days' treatment with fl. ext. of *Salix Nigra*.

CASE 4.—Mrs. B. had from puberty suffered from dysmenorrhœa for fifteen or twenty years. She came under our care in 1882, aged 35, sterile, suffering intensely one or two days every monthly period. I found the ovaria prolapsed and hyperæsthetic in the highest degree. I prescribed at once *Salix Nigra* in one drachm doses three times a day. The next month the catamenia passed as pleasantly as a May day, and so continued, which will be 2 years in May 1885.

CASE 5.—April, 1888, a maiden lady of about 50 years came under treatment for troubles, which I considered reflex, from ovarian trouble. On examination, I found the ovaries much enlarged and exceedingly sensitive to the touch. Ordered fluid extract nigra oz. i, three times daily. In ten days the ovaries were very much reduced in size and sensitiveness and the patient very much improved in health. (Dr. F. T. Paine).

(2.) *Neurosis, Hystero-Epilepsy, &c.*—The most numerous class of cases in which I exhibited *Salix Nigra* with success were women of a nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when along with the general malaise, is added a very decided pain in one or other ovary. They also suffered from *hemicrania*, the pain being situated above the left eyebrow, and resembling the feeling as if a nail were being driven into the skull (*clavus*). Many of them, too, complained of a pain underneath the left breast, and extending around to the back. Such cases are met with in all degrees of severity, from a slight amount of discomfort along with indications of *globus hystericus* upto *Hystero-Epilepsy* in its most pronounced forms. In cases where the ovarian distress was the symptom for which advice was sought, as being in the patient's eyes the most prominent, I usually succeed-

ed in eliciting other indications of an irritable nervous system, and placed them upon half-drachm doses of the fl. ext. of *Salix Nigra* thrice a day. In quite 75 p. c. of patients so treated a great amount of relief was obtained after two or three days' treatment. Not only was the Ovarian Hyperæsthesia relieved, but the *nervous palpitation of the heart was abated*, and the patient felt it every way stronger. (Dr. J. Hutchison). A case of Epilepsy of reflex ovarian origin had wonderfully improved on addition to her use of the bromides, that of *Salix Nigra*. (Dr. J. T. Paine).

(3.) *Masturbation and Spermatorrhœa*.—While the drug suppresses the sexual passion in these affections, it will not cure the evils already produced by sexual excesses; these will best be cured with the aid of electricity. That it is only in the initial stages of these troubles that benefit may be expected, and that it is only prophylactic. One young man, aged 20, in a decline of health, sold his land, became insane, and was taken by his friends to another country. In a correspondence with me he confessed to masturbating. I sent him a prescription of *salix nigra*, on using which he was profuse in his gratitude for relief from his bondage, and of his improved health. He is now in fine health. Another, known as an inveterate masturbator, had lost his reason, and his physicians consulted with regard to the propriety of castration as a dernier resort. On referring to us for advice, I prescribed *salix nigra*, and in due time one of his physicians reported suppression of the seminal losses, improvement of mind and general health, and that the *salix* was all he clinged for it.

(4.) *Prostatorrhœa and Nocturnal Emissions*.—Dr. J. Hutchison gave the drug in two cases of nocturnal emissions with marked benefit. The pollution ceased entirely while the drug was being taken and for several months thereafter. *Virile power and passion* were not much if at all diminished but the relief from the ailment gave them great satisfaction. Drs. E. H. Fenwick and J. A. MacMum have successfully employed it to check *prostatic secretion and nocturnal seminal emissions*.

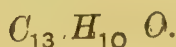
(5.) *Gonorrhœal and Urethral Pains*.—E. R. Waterhouse, M. D. has employed the tincture made from the blossoms or pusseys

of this shrub in cases of gonorrhœa to allay morbid excitement so often observed as characteristic of this disorder. It is also useful in urethral neuralgias following Gonorrhœa and in urethral pains.

Preparations and Doses.—Fl. Ext. of the buds, 30 to 60 mins.
as a sexual sedative.

Fl. Ext. of the bark, 30 to 60 mins.
as a tonic and antiperiodic.

SALOL.



Syn.—Salicylate of Phenol.

Characters and Chemical Composition.—A colourless substance, sold in the shops as a coarse white crystalline powder. It has an aromatic odour, and a faint taste which is rather agreeable than otherwise. Insoluble in water and acid liquids, but is soluble in alcohol, ether, benzol and alkaline liquids, and is decomposed by sodium bicarbonate. Melting point is as low as 43°C. Chemically it consists of Salicylic Acid in which one atom of Hydrogen has been replaced by the Phenol Group, and contains synthetically 40 p. c. of Phenol or Carbohc Acid, and 60 p. c. of Salicylic Acid.

Physiological actions.—In general it may be asserted that Salol is free from any toxic action. Prof. Lowenthal has also proved by his own personal experience that 10 grammes of Salol, taken in two doses, causes no inconvenience or unpleasant effect whatever. It is insoluble in the Gastric juice, but dissolves readily in the Intestinal secretions after admixture with the Pancreatic fluid into the Duodenum, where it splits up into its primary constituents, both of which are readily absorbed and appear in the urine,* giving it the olive-green colour, and sometimes almost black; this colouration is the result of the absorption and oxidation of Phenol products into the circulation. It has been recently shown that the urine of persons taking Salol is antiseptic. Salol, according to Dr. Bartholow, is the most advantageous if not the most powerful germicide. The temperature of the body has been reduced by it from 104° Fahr. to

* The test of Carbohc Acid and Salol is the same—i.e., a solution of Ferri Perchl. strikes a fine violet colour on being added to urine containing either.

98° (Nenki Lepine, etc.) In common with all the antipyretics, the decline in the body-heat is coincident with sweats, more or less profuse, but not the exhausting sweats accompanied with profound depression of the vital powers—the collapse, even—which are caused by many of the same group. Furthermore, Salol differs from many of the antiseptic antipyretics in that the rise of fever after the period of apyrexia is not signalled by a chill, a rigor, or even a pernicious cold stage.

Therapeutical actions.—This new Antiseptic and Antipyretic is serviceable in cases where salicylate of soda is badly borne, and it is somewhat remarkable that no toxic symptoms appear to have resulted from its employment, and it is well borne in large doses. It acts as a powerful antipyretic in doses of 32 grs. and that a dose of 5 grs. given every hour is not so efficient as one large dose.

(1.) *Rheumatic Affections.*—The first triumphs of Salol were won in the treatment of *Acute Rheumatism*, excelling as it apparently does, all other remedies in its power to abate pain and lessen fever when given in doses of 15 grs. 6 times a day. It seems to remove certain morbid material from the system and has been used lately in preference to the alkaline salicylates, to act after entering the blood, in *Acute and Chronic Rheumatism, Myalgia, Sciatica, Lumbago and Migraine due to excess of uric acid*. It was given to 30 cases of Rheumatism; the *Acute Articular Rheumatism* rapidly yielded to it, but the *Chronic Muscular Rheumatisms* also were relieved or cured by it (Herrlick).

(2.) *Neuralgic Affections.*—(a.) It is now quite certain that Salol and other remedies of the same class have the power to relieve the pains of Locomotor Ataxia in a remarkable degree; also cases of genuine Migraine, &c. The dose for these purposes will be from 3-10 grs. three or four times a day. (b.) In two cases of Ciliary Neuralgia—one of 20 years' standing—and in a case of Acute Trachoma, with Ulcerative Pannus, pain was controlled. (c.) Acute Catarrhal Conjunctivitis, with severe Supraorbital pain was relieved, though of months' standing.

(3.) *Gastro-Intestinal Affections.*—(a.) As Salol is not broken up by the gastric juice but by the pancreatic juice, it is not absorbed

until it passes into the duodenum. It therefore seems to be indicated instead of the soluble preparations of Salicylic Acid, in those cases where the stomach is irritable or a little weak, and in summer diarrhoea of children. It is indicated in Duodenal Catarrh, and in Intestinal Catarrh with putrefactive process going on in the gut, or where Icterus supervenes from inflammation of the duodenum.

(b.) Dr. Walter Carr has recorded his experience of Salol in the treatment of gastro-Intestinal derangements of children. It is an easily administered and safe drug in the first stage of Acute Gastro-Enteritis of young subjects, and in the more chronic forms of Enterocolitis accompanied by slimy bad-smelling motions. In frequent serous discharges and in Colitis it does not produce such good results, nor can it be relied upon in Dysenteric conditions. For children under 6 months, $\frac{1}{2}$ gr. every 2 hours for 3 or 4 doses will be sufficient; between ages of 6 months and 18 months, gr. $\frac{1}{2}$ to gr. $1\frac{1}{2}$ may be given; and at 2 years, 1 to 2 grs.; it is best given in some inert powder.

(4.) *Cholera*.—Salol is said to be destructive to the *Cholera Bacillus*, founded on the fact that the cholera bacilli revive their virulence when in pancreatic juice (alkaline), and the Salol after entering the duodenum, splitting into its two constituents, which coming in contact with the bacilli, destroy them. Prof. Lowenthal (Paris), has established by experiments that 1 gramme Pancreatic Juice will act absolutely destructive to *Cholera Bacillus*.

(5.) *Affections of Pharynx, Tonsils, &c.*—Salol has been found most useful in Anginas and Acute Inflammations of the throat, relieving the inflammation, pain and dysphagia in 24 to 48 hrs.; 22 cases of Inflammation of the Soft Palate, simple and other forms of Tonsillitis, Pharyngitis have been treated with most remarkable success by Gouguenheim by administering Salol in doses of 45 to 60 grs. daily in three separate doses. In these cases the daily minimum dose should be 60 grs. maximum 120, and frequent 90 grs. for adults per day. The most frequent form of administration is to give 10 grs. every 2 hours. It has most marked effect in Lacunar Tonsillitis, less in Catarrhal Pharyngitis and least in well-developed Quinsy. In Catarrhal and Lacunar forms of Tonsillitis and simple Pharyngitis pain is relieved after the third dose. (Jonathan Wright, M.D.).

(6.) *Affections of the Urinary Organs.*—(a.) M. Dreyfous has administered Salol alone or in combination with balsams, in seven cases of *Blenorrhagia*, the dose varying from 5 to 8 grs. The discharge decreased rapidly in each instance and in one case, the cure was complete in 8 days. The good results are due to the urine being rendered aseptic, and probably antiseptic, by Salol. Certain cases in which Salol was given alone, proved that the good result was due to it and not to the balsams, although it was preferred to give it with *Copaiba* or *Cubebs* in order to hasten the cure. Salol is also useful in *Cystitis*, *Pyelitis*, and *Gonorrhœa* on account of the rapidity with which its constituents are absorbed and the promptness with which they appear in urine.

(7.) *Gynæcology.*—As it has no disagreeable and toxic effects like Iodoform, it is beneficial in *Gynæcology*. Equal parts of Salol and *Amylum* have been used as a dusting powder in *Fungous granulations* of the Uterus and in *Vaginitis*.

(8.) Salol mixed with starch is an useful application for *Facial Erysipelas*.

(9.) *Other Topical Uses.*—Topically it is applied in the form of powder, dusted on the surface, or blown on by an insufflator, and in the solution dissolved in alcohol, turpentine or cotton-seed oil, and mixed with vaseline or other fats. As it has no odour and is more effective than Iodoform its utility is evident. It can be mixed with Iodoform or Iodol. Admirable results have been obtained with it in *Ozœna*, *Otorrhœa*, *Gonorrhœa*, *Chancres* and *Chanerous Ulcers*, specific and common. Has been used locally in foetid wounds, ulcers, excoriated surfaces and in a large class of surgical cases. Suspended with tragacanth or starch mucilage or dissolved in alcohol and then mixed with water, it forms a good mouth and nose wash, in affections of these parts. It is also topically applied in diseases of the throat.

As a Diagnostic Agent.—Dr. G. Pal, of Vienna gives details as to the utilization of the decomposition of Salol for diagnostic purposes. This method is based on the Nencki's discovery that the acid compounds of phenol are broken up into their components by the pancreatic juice and that all the parts of the digestive tract, except the stomach, had the power of decomposing salicylic acid and phenol. The

acid reaction of the contents of the stomach prevented that decomposition. In this method one gramme of salol was given in wafers half an hour after meals. Dr. Pal made two series of experiments with salol—namely, one on the permeability of the pylorus, and the second on the duration of the secretion of salicylic acid in the urine in its relation to the motor function of the intestine. If salol was introduced into the stomach, and the presence of salicylic acid could be proved, it was thus shown that the contents of the stomach had passed into the duodenum. The salol test thus permitted of an appreciation of the permeability of the pylorus. Dr. Pal had the opportunity of observing the patients in whom the reaction of salicylic acid in the urine did not occur after the use of salol. Occlusion of the pylorus was, for this reason, diagnosed, which, in both the cases, was confirmed by the *post-mortem* examination. In one of the cases the patient was a cachectic man, aged 52, who had been suffering from gastro-intestinal disturbance for two years. Examination revealed the presence of dilatation of the stomach, want of free muriatic acid, ferment as well as pepsine. The salol test was used twice and the reaction occurred in 115 and 120 minutes respectively. In an examination of the urine made eight days after the last test the reaction did not occur. Jejunostomy was then practised by Dr. Ullmann. He rapidly lost flesh and died two days after. The *post-mortem examination revealed Scirrhus of the Pylorus and the lower wall of the stomach, and a Stenosis of the Pylorus 5 centimetres long.* In the second case, a tumour of the stomach and carcinomatoses of the peritoneum were present. The *post-mortem* examination showed, also, in this case that no gastric contents could pass into the duodenum. It is thus clear that the salicylic acid reaction in the urine showed that the pylorus was occluded.

In the second series of experiments Dr. Pal endeavoured to ascertain whether there is any relation between the duration of the passing of salol from the stomach into the intestine, and the duration of the secretion of salicylic acid. For this purpose he evacuated the contents of the stomach a definite time after the administration of salol. The experiments were made on two patients. These observations showed that the duration of the secretion of the salicylic acid did not depend on the stomach, but only

on the intestine and that in impaired motor function of the stomach there was more prolonged secretion of salicylic acid than when the stools were abundant. These experiments showed that the duration of the secretion of salicylic acid in the urine after the administration of salol is not only dependent upon the interval of time which a certain quantity of salol takes to pass from the stomach into the intestine, but on how long it remained in the intestine. Experiments were then made as to the duration of the secretion of salicylic acid after the administration of salol and the motor function of the intestine. More than thirty experiments were made, from which Dr. Pal concluded that there is a relation between the secretion of the salicylic acid in the urine and the motory function of the intestine. These experiments may contribute materially to the exact diagnosis of intestinal affections.

Doses.—10 to 30 grs., as an average dose for adults; the maximum dose, when its antipyretic effects are to be produced, is about 60 grs.; for other purposes, 5 to 10 grs. usually suffice.

2 to 8 grs. for children.

SANGUINARIA CANADENSIS.

Syn.—*Blood Root, Red Puccoon, &c.*

Part used.—*The Rhizome.* *N. O.*—*Papaveraceæ.*

Habitat.—*United States.*

Characters and Chemical composition.—A perennial plant rising about six or eight inches high. Rhizome about two inches long, and two-fifths of an inch thick, horizontal, cylindrical, somewhat branched, faintly annulate, wrinkled, reddish-brown; internally whitish, with numerous small, red resin-cells, or of a nearly uniform, brownish-red colour; bark thin; odor slight; taste persistently bitter and acrid. It contains two asserted alkaloids, puccin and porphyroxyn, besides the alkaloid *Sanguinarina*, and chelidonic acid.

Physiological actions.—It has a primary influence over the circulation, increasing the action of the heart; secondary influence, arterial sedative. In sufficient doses it produces nausea and depression, slowing the heart's action. It is very stimulating to the mucous membrane when applied direct; it exerts a most decided

and constant control over the capillary circulation of the mucous membranes.

Therapeutical actions.—Sanguinaria possesses alterative, aphrodisiac, detergent, diuretic, emmenagogue, errhine, escharotic, expectorant, febrifuge, laxative, resolvent, sedative, sudorific, stimulant and in large doses emetic, properties. The most remarkable agreement in one grand leading idea, that *Sanguinaria* exerts a most decided and constant control over the capillary circulation of mucous membranes; and its influence over the circulation and secretion of liver is doubtless due to same cause. Through this specific action on m. m. its remarkable effects in *Pneumonia, Kidney troubles and Rheumatism*, through the Kidneys are no doubt secondarily accomplished. It is peculiarly beneficial in diseases of the *Throat, Lungs, Stomach. Liver Genital Organs, in Fevers, Gravel, Dropsy, Constipation, &c.*

(1.) *Affections of the Respiratory Organs.*—In these affections Dr. L. B. Anderson has used Sanguinaria for thirty years. The nausea produced by it is never sickening and prostrating like most other emetics. When nausea is excited by it, it either speedily passes away or culminates in emesis and nausea is never seen to persist after once vomiting has occurred. In this respect Sanguinaria exceeds all other nauseants. Dr. L. B. Anderson has given it in all portions from five drops upto a teaspoonful and has observed no unpleasant effects from the largest doses save a slight nausea speedily followed by quietude or prompt emesis. He has given it to children three days old and to others in all decades of human life upto 90. It would when freely given always promote a free discharge of mucus from the nasal, pharyngeal, laryngeal and bronchial mucous membranes in diseases of these tissues.

(a) *Nasal Catarrh.*—Hence in so called nasal catarrh, accompanied with symptoms of recent colds, as headache, pain in the limbs, dryness about nares and throat, feverishness and chilliness, he has given a teaspoonful of tincture of sanguinaria in a wineglassful of sweetened water at bedtime and has found the patient entirely relieved the next morning.

(b) *Croup.*—It is an uniformly efficient remedy in croupal coughs. To a child a year old, who awakes during night with a sense of suffoca-

tion, arising from laryngeal stricture, accompanied with a frequent, ringing, metallic cough, and fever, 20 drops of tincture given every fifteen minutes till emesis generally affords entire relief in an hour or two. When however the disease has progressed till tumefaction of the tissues has occurred from infiltration into submucous cellular tissue, he no longer relies exclusively on Sanguinaria. but while continuing that in small repeated doses with small portions of Chlorate of Potassium he gives a very large dose of Calomel, which generally relieves in a few hours very desperate cases.

(c) In all stages of *Whooping Cough*, in the incipient stages of *Bronchitis*, second stage of *Pneumonia*, *Hay Fever* and in all stages of *Phthisis* he has often found Sanguinaria to meet indications which nothing else would fill. In an attack of *Asthma* it is incomparable. I also have been using sanguinaria with the same happy results in *Pulmonary Affections*.

(2.) *Exanthematous and Throat Affections*.—In *Measles*, *Rothelm* and malignant throat troubles of *Scarlatina*, it subserves a purpose which nothing else would accomplish. It is very useful in *Diphtheria*.

(3.) *Gastric and Hepatic Affections*.—It is useful in *Atonic Dyspepsia*, *Duodenal Catarrh*, *Jaundice* and *Hepatic congestion*.

(4.) *Genital Affections*.—When there are relaxation of genital organs, diurnal losses, inaptitude (from irritability) for coitus, Sanguinaria may be given (Bartholow.) A pill composed of sanguinarine gr. 1/10 and Ergotine gr. 1, is very beneficial for *Spermatorrhœa*, diurnal losses and relaxed genitals. It acts as an aphrodisiac from its tonic and stimulant properties.

(5.) *Amenorrhœa*.—In *Amenorrhœa* of *Anæmia* or *Chlorosis* the following is useful :—

R Sanguinarinæ gr. 1/10, Ext. Aloes gr. ½, Ferri Redacti, gr. 1,
M. Ft. pil. 1. One pill t. d.

(6.) Externally it is useful in *Cutaneous Affections*, *Indolent Ulcers and Chancres* and as an escharotic over *fungous granulations*.

Preparations and Doses.—Pd. Rhizome, 1 to 3 grs. as an expectorant; 10 to 15 grs. as an emetic.

Fl. Ext. 2 to 5 mins. as an expectorant, 10 to 20 mins. as an emetic. Solid Ext. 1 to 5 grs.

Tr. (1 to 8 Pf. Sp.), 20 to 60 mins. as an expectorant; 2 to 3 drs. as an emetic.

Sanguinarine, $1/12$ to 1 gr. as an alterative, hepatic stimulant, expectorant, &c., 1 to 3 grs. as an emetic.

Sanguinarinæ Nitras, $1/20$ to $\frac{1}{4}$ gr.

„ Sulphas, $1/30$ to $\frac{1}{2}$ gr.

SANITAS.

History and Manufacture.—The salubrious properties of the atmosphere in the vicinity of pine forests have long been known, and advantage has been successfully taken of their invigorating and restorative attributes to those suffering from diseases of the lungs. The Eucalyptus Globulus, or blue gum-tree of Australia is another and recently discovered example of the hygienic influence of vegetation, this tree having of late years acquired a high reputation for rendering habitable localities which were previously the unhealthy seats of malaria. Closely connected, too, with the health preserving influence of the pine-tree, and of the Australian blue gum-tree, is the prophylactic power of camphor and thymol. For ages before pine woods became known as health giving spots, or the antimalarial influence of encalyptus trees had been observed, camphor had enjoyed an extraordinary reputation as an antiseptic. Mr. Kingzett found that plants do not produce ozone, but peroxide of hydrogen, and undertook a series of experiments to clear up this moot point in natural chemistry. He accordingly submitted to the influence of atmospheric air and oxygen a large number of oils and other bodies, such as the oils of turpentine, carraway, bergamot, eucalyptus and juniper. He found that oxygen was absorbed rapidly by all these substances, and in the case of turpentine to an enormous extent. Having then arrived at the facts that the healthy

atmosphere of a pine wood or a eucalyptus forest is due to the presence of peroxide of hydrogen and camphoraceous substances produced by the atmospheric oxidation of the essential oils secreted by those trees, and that it is not upon the odour of either of these that the principle depends, but upon the "*terpene*," or principle of turpentine, which is common to all and most powerful in the pine produced turpentine of commerce, and that these natural purifiers can be produced from common turpentine, Mr. Kingzett set to work to manufacture them in such quantities as would make them practically available as antiseptics and disinfectants—in short, to imitate at will the effect produced on a grand scale in Nature's own laboratory. He commenced by exposing a large quantity of turpentine floating on water to a hot blast—much the same as molten iron is in the Bessemer "converter"—with the effect of producing a watery solution, composed of peroxide of hydrogen, camphoric acid, camphor, thymol, &c., and an oxidised oil, containing a great quantity of camphoric peroxide. To these products the name of "SANITAS" has been given, or more properly, "Sanitas Fluid" and "Sanitas Oil."

SANITAS OIL.

Characters and Tests.—Sanitas Oil is a yellowish red oleaginous fluid, density about 975 to 950, slightly inflammable, volatile at low temperatures, and having an aromatic camphoraceous odour. Is perfectly miscible with petroleum bases, oils, fats and waxes; soluble in alcohol and ether. With potassium iodide, starch and ferrous sulphate, it gives a strong reaction of peroxide of hydrogen.

Therapeutical properties.—Sanitas Oil (the oxidised oil of turpentine) not only exhibits oxidising powers equal to a ten-volume solution of peroxide of hydrogen, but also possesses most powerful antiseptic and germicidal properties. Although oily by nature, it may be regarded for all practical purposes as an extremely concentrated form of the aqueous fluid (Sanitas Fluid), and it may be easily emulsified. Carbolic Acid, although antiseptic, is fatal to animal and vegetable life of all degrees, and, besides this objection, it has no power to assist in that natural process of slow decomposition (oxidation by the air) by which all organic matters are ultimately resolved into innocuous and final

products. Sanitas on the other hand is found to be a *great promoter of the process of oxidation*, and its antiseptic intensity is equal to Carbolic Acid, Thymol and Iodoform, while at the same time it is neither caustic nor irritating nor does it produce any stain on delicate fabric, and it is non-poisonous to man. *It will no doubt rapidly assert its vast superiority over every other Antiseptic or Disinfectant at present known to science.* It has also marked hæmostatic properties. Sanitas oil may be safely relied upon as a trustworthy Antiseptic, Oxidant and Disinfectant, and in any case where it is feared putrefaction may set in, or in any case in which that process already exists, Sanitas Oil may be employed with confidence as to result. I daily employ it in my practice in wounds, ulcers, purulent discharges from various parts of the body, &c. Having enumerated these general properties I pass on to a practical description of its various uses in medicine and surgery, giving also few clinical reports relating to them :—

(1.) *Antiseptic Surgery.*—Its antiseptic properties are chiefly due to the camphoraceous compounds. Its *antiseptic intensity is said to equal Carbolic Acid, Thymol and Iodoform*, while at the same time it is *neither caustic nor irritating.* (a) It is thoroughly suitable for healing wounds and ulcers, from its diminishing the suppuration, quickening the surface of the wound, and producing rapid healthy granulations. For this purpose, Sanitas Oil mixed with some suitable basis, or bandages impregnated with the Sanitas Oil, diluted with Olive Oil, in the proportion of 1 to 7; may be employed. (b.) A solution of 1 part of Sanitas Oil in 10 parts of Rect. Sp. may be applied to *Septic Wounds*, and 1 in 20 may be used in *Injuries to the head.* (c.) For producing *Antiseptic Spray* for dressing purposes, the pure Sanitas Oil may be used, or better still, the emulsion (diluted with water to the required extent) described at the end, may be employed. (d.) A mixture of 1 of Sanitas Oil to 10 of Olive Oil is useful to soak lint for introduction into *deep wounds.* (e.) For oiling catheters, speculas and wiping over the hands and fingers of the operator, Sanitas Oil mixed with 20 parts of Olive Oil is useful. (f.) Sanitas Ointment has been invariably used by Rd. Petch, M.D., for anointing his fingers at a midwifery case; and since using it he had never had a *Septicæmic* case in his *midwifery practice*, which is a rather extensive one.

(2.) *Deodorant and Disinfectant.*—Sanitas Oil, being volatile at low temperatures, may be employed to purify the air of dwelling, sick and infected rooms.

(a.) The air of dwelling rooms may be purified by placing in saucers a small quantity of Sanitas Oil, or sawdust over which the oil has been sprinkled.

(b.) To fumigate an infected apartment, shut the windows, chimney draught, and doors, plug up the keyholes, and evaporate an ounce or more of the Sanitas Oil, according to the size of the room, out of a small iron tray, by means of a lamp placed beneath it, taking the precautions against accidents by fire. Or place the oil upon some water in a saucepan or kettle and boil the mixture so that the fumes freely escape into the apartment. Or place a teacupful of water in the cup of the Fumigator (a specially designed apparatus) add 10 to 20 drops of Sanitas Oil or more, at pleasure and then light the spirit lamp and place it beneath the said cup, extinguishing the lamp at will. A Pyramid Night Light may be used in place of the spirit lamp if desired.

(c.) Sanitas Powder, made by admixture with the oil with lime is used with good effect as a *disinfectant and deodorizer in stables, cow-houses, kennels and piggeries*—purifies the air in the exhibitions of animals, in manufactories where fermentiscible materials are employed, and on ship board, destroys unpleasant odours and substitutes its own camphoraceous aroma.

(d.) Offensive accumulations and places may be readily and immediately purified by sprinkling this powder, or even saw dust impregnated with the oil,

(d.) The oil poured over *typhoid and other evacuations* which have to be kept for observation, effects complete deodorization without altering their appearance.

(3.) *Germicide, Parasiticide, &c.*—Sanitas Oil does not appear to have the potent poisoning effect of Carbolic Acid on germ parasites, but it effectually destroys the *skin parasites of scab and mange*, as well as *lice, fleas and maggots*. The cryptogamic parasite of *tinea tonsurans* is killed by soaking several times with the oil. Greenhouses, &c., may be

freed from blight and other obnoxious insects by fumigation with Sanitas Oil, or by spraying them with a mixture of 4 ozs. Sanitas Emulsion to the gallon of water.

(4.) *Cancer*.—As an application in cases of cancer it has been found most useful in destroying fœtor, and relieving pain (A. M. Adam, M. D.) So thoroughly effective and pleasant antiseptic it is, that in a case of cancer, so bad was the smell, that the whole family of the patient suffered from illness until the regular use of Sanitas Oil was adopted, from which time all evils and unpleasantness disappeared.

(5.) *Affections of the Lungs and Throat*.—Sanitas Oil has been extensively employed in these affections by inhalation by means of the fumigator or vaporiser, or in the form of a spray. The mode of using it for inhalation is to add 10 or 20 drops of the oil to a teacupful of water in the cup of the fumigator, and to place a lighted spirit lamp beneath, the fumes speedily begin to be given off. If the form of spray is preferred, a similar quantity should be placed in the medicine-bottle of Adam's inhaler. William Abbotts, M. D. says: "I have lately given Sanitas Oil an extensive trial in a varied series of affections of the lungs and throat, and I am thoroughly satisfied with the results. The effects of its use are soon apparent, particularly in cases where the lung disease has been marked by very copious secretion of mucus, or by thick, tenacious expectoration, as in chronic bronchitis. The quantity of secretion is perfectly diminished, while it gradually loses its thick, tenacious character; the expectoration is rendered much easier, and the patient progresses to a healthy condition."

(a) *Pulmonary Phthisis*:—Dr. Burney Yeo says: "If Pulmonary Tuberculosis, and if Tuberculosis depend on the presence of an infective organism in the tissues, a rational treatment of Phthisis must include the administration of antiseptic agents, or the surrounding our patients with antiseptic conditions." If then an antiseptic treatment be desirable and rational, as I have no doubt it is, I know of no agent more suitable for use and applicable than Sanitas Oil.

(b) In a case of abscess of the lung in a child, with most horrible fœtor of breath, permeating the room, I was much pleased with the action of Sanitas Oil as fumigation and inhalation in counteracting the odour (Rd. Petch, M. D.)

(d) *Asthma*.—Having long used the oil of *Pinus Sylvestris* and of the *Eucalyptus Globulus* for vaporic inhalations, and also having made many experiments with cigarettes formed of the leaves of the latter plant for asthma, and having further for many years prescribed lozenges containing the extract of the *Eucalyptus Rostrata* in preference to any other throat astringent, I was well prepared to find Sanitas Oil useful. (Lenox Browne, F. R. C. S.)

(d) *Whooping Cough*.—Rub the spine and chest twice daily with an embrocation made of one part Sanitas Oil to four or five parts Oil of Cloves.

(e) Sanitas Oil used either as a gargle or douche is useful in *relaxed sore throat, and in all forms of sore throat associated with foetor*.

(e) *Diphtheria*.—Inhalation of Sanitas vapour, or even the fumigated air gives great relief and comfort to the sufferer and prevents spread of the disease, in cases of *Diphtheria*; at the same time the use of a gargle by mixing few drops of Sanitas Emulsion in water, will also produce beneficial effects.

(f) Inhalation of Sanitas vapour is especially valuable in *Chronic Bronchitis, and in Pneumonia* (greatly diminishing the offensive odour of the breath and sputa).

(g.) Iodoform is readily soluble in Sanitas Oil, especially when the oil is used warm. Iodoform may be administered as an inhalation by the use of the solution of it in Sanitas Oil, especially in cases of *Laryngeal and Pulmonary Phthisis*.

(6.) *Infectious Diseases*.—Sanitas Oil diluted with Olive Oil, forms an excellent preventive inunction for the body of a *desquamating Scarlatinal patient*. The Inhalation of Sanitas Oil is also indicated in *Scarlet Fever, Small Pox, Measles, &c.*

(7.) *Affections of the Nose and Ear*.—Sanitas Oil used as a gargle or douche is useful in *Ozænic diseases of the nose, in offensive discharges from the ears*. As inhalation it is useful in *Nasal Catarrh and in deafness* arising from obstruction of the eustachian tubes by inspissated mucus.

(8.) *Dentistry*.—The oil has been successfully used in the treatment of *suppurating pulps and alveolar abscess*, and the flavour is

generally more agreeable than either carbolic acid or eucalyptus oil. The oil should be carried into the canal on a fibre of cotton wool or better still, pumped up it with a fine broach on which a little floss silk has been twisted. The cavity should then be sealed up with wax, gutta-percha, or mastich for two or three days. Generally one or two dressings have been found sufficient, indeed, in a great percentage of cases treated with it by Gurnell Hammond, L. D. S., the least trace of it on cotton was quite enough to render a bad root perfectly sweet. So Sanitas Oil forms the best dressing for diseased roots being one of the most powerful antiseptics and oxidants I have ever used. It appears to me superior even to Encalyptus oil, and it does not irritate in the smallest degree (unlike Carbolic Acid, Creasote, &c.,) any of the delicate tissues with which it may accidentally come into contact. T. Charters White, M.R.C.S., L.D.S., has found Sanitas Oil very valuable dressing to pulps after the application of Arsenic. From his experience of its use he claims for it many advantages over Carbolic Acid, first in not being caustic, and, secondly, patients find its flavour more agreeable than either Carbolic Acid or Encalyptus Oil. He invariably now adds Sanitas Oil to any solution of Chloroform and Mastich, as cotton saturated with this mixture does not become so offensive when used as a temporary dressing.

(9.) *Burns*.—Apply a mixture of 4 ozs. of Sanitas Oil, with 16 ozs. of Liniment. Calcis, as a dressing.

(10.) *Affections of the Skin*.—Sanitas oil does not appear to have the poisoning effect of Carbolic Acid; even in concentrated form there is no risk of exciting undue irritation, or inducing from absorption constitutional results, such as follows the free use of Carbolic preparations. The Sanitas-Vaseline is useful in cases of eczema, nettle-rash or urticaria, syphilitic diseases of the skin, ringworm, &c. (a.) *Ringworm*: Rub in the Sanitas Oil night and morning until the skin, whether of the head or elsewhere becomes pretty sore, and then rub in less frequently for a few days. On being allowed to heal the disease will have entirely disappeared. (b.) *Eczema*: A solution of 1 part of Sanitas Oil in 7 parts of Olive Oil applied by a feather or soft brush every morning and evening is beneficial. A case is reported of Chronic Eczema of a year's standing on both legs, very thick and red at the

bend of the knees extending down and round both legs to the ankles. An ounce of Sanitas Oil mixed with 7 of Olive Oil was applied every morning and to have a warm bath at bed time, and in 24 days cure was perfected which resisted skilled treatment for 12 months.

(11.) *Envenomed Wounds, Gangrene, &c.*—In many cases of recent envenomed wounds, or those which have been neglected and become offensive, undiluted Sanitas Oil answers well. It is found also remarkably efficacious in virulent cases of Gangrene.

(12.) Sanitas-Vaseline is useful in all sores, wounds, cuts, burns, sprains, chapped hands and lips, and all broken surfaces of the skin; also in ulcerated surfaces and for disinfecting tender and perspiring feet.

(13.) *Toxicology.*—For Phosphorus Poisoning, Sanitas Oil is a good antidote. Give it in 8 to 10 drop doses every half hour for two or three hours, then with greater intervals. Avoid Alcohol in any shape, drink plenty of mucilaginous liquids.

Preps.—(1) *Sanitas Oil Emulsion.* Take powdered gum acacia 1 part and well triturate with 4 parts "Sanitas" Oil; then add 2 parts water *all at once* and stir vigorously until the emulsion is produced. This emulsion may be diluted with water in any proportion and is therefore available for spraying and dressing purposes.

(2.) *Sanitas Antiseptic Gauze.*—Melt 3 parts Dammar resin with 3 parts paraffin wax and 1 part or more Sanitas Oil and use the mixture while hot for impregnating book muslin, employing pressure while still hot to squeeze out any excess of the antiseptic mixture. Afterwards, store in an air tight case.

(3.) *Sanitas and Iodoform Emulsion.*—Take 36 grains Sanitas Oil, 36 grains powdered gum acacia, 8 grains iodoform and add water to 2 fluid ounces.

(4.) *Sanitas Ointment or Sanitas Vaseline*—It can be readily made by melting together 28 parts "Vaseline," 1 part paraffin wax and 1 part "Sanitas" Oil.

(5.) *Sanitas or Antiseptic Eau de Cologne* :—

R. Eau de Cologne 200 grms., Chloral Hydrate 7 grms.,
Quinine 0.6 grm., Sanitas Oil 1.8 grms., Lavender
Essence, 20 drops. Mix.

SANITAS FLUID.—(No. 1).

Characters.—A clear and colourless aqueous solution which is of a very fragrant odour, and does not stain linen or carpets. With potassium iodide, starch, and ferrous sulphate, it gives a strong reaction of peroxide of hydrogen. Its active principles include Peroxide of Hydrogen, Thymol, a soluble Camphor, Camphoric Acid and other substances, which, collectively, give to it its pleasant pine-like odour.

Two kinds of it are produced—one for toilet purposes, which is almost quite *odourless*, and, when freely mixed with water, makes a very agreeable mouth wash, &c.; and the other “*aromatic*,” for all kinds of antiseptic and disinfecting purposes, in the house, in hospital, for farm purposes, and preservative purposes.

Therapeutical properties.—Sanitas Fluid is not merely a Germicidal agent and Antiseptic, but it is also a powerful oxidising agent. Its antiseptic properties are chiefly due to the camphoraceous compounds, and its disinfectant or germicidal virtues depend largely upon the peroxide of hydrogen, or corresponding camphoric peroxide. Its antiseptic intensity is said to equal Carbolic Acid, Thymol and Iodoform, while at the same time it is neither caustic, nor irritating, nor poisonous. In its pure form it is a good *styptic*.

Antiseptic Surgery.—Sanitas Fluid No. 1 can be used strong for all purposes of antiseptic surgery without danger of any kind, and it will be found as effective as Carbolic Acid, and entirely without irritation. Wounds and sores before dressing should be washed with the Fluid, mixed with an equal quantity of water. As an antiseptic wash for use by Surgeons the Fluid may be employed as sold, without dilution. It oxidises all putrid products and keeps wounds healthy, without irritation or toxic effects; and its non-irritating qualities fit it for the dressing of wounds after operations where Carbolic Acid is found to disagree in many cases. Diluted according to circumstances with one to ten parts of water, the Sanitas Fluid is an useful antiseptic lotion for wounds, ulcers and bruises. Where serious wounds for a week or longer have been treated with Carbolic Acid or other more irritating dressings, granulations and skin growth often proceed more satisfactorily with the substitution of milder Sanitas.

(2.) *Antifermentative and Preservative*.—Experiments show that 10 per cent of Sanitas Fluid arrests fermentation of grape juice, prevents putrefaction of solutions of white of egg, preserves milk for ten days, and wine for still longer periods, and also arrests putrefaction in fish, and meat, destroys their putrefescent odours and prevents recommencement of decay. To preserve meat, fish and game preserve the articles once or twice a day with the fluid diluted with an equal bulk of water. To preserve beer in the house, add half a wine glassful to each nine gallons. Anatomists will find the undiluted Sanitas Fluid No. 1 a capital medium in which to preserve anatomical specimens, &c.

(3.) *Deodorant and Disinfectant*.—(a) For general use in the house, sprinkle it about the carpets, and floors, and spray into the atmosphere. To produce isolation of the sick, steep sheets or cloths in the Fluid, wring out, and then hang them across the door of the infected apartment or sick room (one inside and one outside).

(b) *In Dissecting or Operating Rooms*, not only should the air be kept sweet, but the Fluid No. 2 should be sprinkled over the anatomical subjects (or these should be sponged with the fluid), and there should be a bath of the pure fluid situated in the convenient part of the chamber, in which the operator's hands can be immediately immersed when desired. A similar bath should be used for instruments. It is the only disinfectant which entirely overcomes the exhalations so well known in the dissecting rooms.

(c) Offensive breath, from whatever cause arising, may be remedied, and in many cases entirely arrested, by the use of Sanitas Fluid No. 1, or the Toilet Fluid, as mouth wash. Use 10 or 20 drops to the wine-glass of water.

(4) *In Phthisis, Bronchitis, Sore-throat, &c.*, use a gargle three or four times a day, made by adding one measure of Sanitas Fluid No. 1 to ten of water. (*Vide Sanitas Oil*).

(5.) *In Hay-Fever*, spray Sanitas Fluid No. 1 mixed with equal volume of water up the nostrils, or apply the mixture by means of the *Douche*. (*Vide Sanitas Oil*).

(6.) *In Diphtheria* gargle the throat with Sanitas Fluid mixed with 10 parts of water. (*Vide Sanitas Oil*).

(8.) In cases of Ear Discharges, Nasal diseases, Suppurating Wounds and Sloughing Ulcers, the fluid should be diluted with twice its own volume of water and applied by syringe, douche, bandage, or spray producer, to the seat of the disease.

(9.) In *Purulent Ophthalmia* I beneficially employ it in the following formula :—

R Sanitas Fl. dr. $\frac{1}{2}$, Acid Boric grs. 5, Glycerine dr. $\frac{1}{2}$,
Aquæ ad drs. 4, M. et ft. collyrium. To be dropped
into the eye every 2 hrs.

(10.) *Skin Diseases*.—Sanitas gently stimulates the skin textures; and hence the solutions and soaps rubbed in are useful in *Prurigo*, *Chronic Eczema*, and other scaly cutaneous complaints. Sanitas was used by Dr. Joseph Hermann in the section of the Hospital (Vienna) for various syphilitic cases in two ways :—(1.) As water employed for bandaging purposes in *Syphilitic Ulcers*. (2.) As a lotion for *Syphilitic Eruptions of the skin*. The working of the remedy against ulcers was apparent in nearly all cases, in the speedy cleansing of the ulcers from firmly adhering matter discharged by exudation; in the lessening of the suppuration; in a cure quickly following; and in the visible tendency towards healing the marks left by the disease. This result was furthermore plainly seen in wounds caused by the opening of abscesses of long standing, in cases of enlargement of the glands. Syphilitic eruptions of the skin, on being treated with “Sanitas,” came to involution sooner, and even the pigments disappeared quicker than in cases where steam baths or other means had been applied.

(3.) As an *Anti-Pruritic*, the Sanitas Fluid, diluted with an equal part of water, should be used.

(11.) *Fevers*.—Along with Vinegar or other Acid, Sanitas Fluid diluted with 20 or 50 parts of tepid water is serviceable for sponging *febrile patients*, promoting comfortable perspiration, and also destroying any contagious matters. It may also be found of high value for cold sponging the skin in fevers, if the temperature be high. In *Scarlet fever* the patient's body should be cold sponged with the Fluid diluted with five times its own bulk of water. In *Typhoid*, doses of Sanitas Fluid should be given from time to time.

(12.) *Different kinds of Washes.*—(a.) As a mouth and tooth wash use one tablespoonful to each wineglass of water. (b.) All water used for washing the sick should be rendered antiseptic by the addition of, say, a wineglass of the Fluid to each quart of water employed. (c.) As a Hair wash the Fluid No. 1 Sanitas Fluid to about 8 ounces of water, and wash the head therewith night and morning.

(13.) Devoid of irritant effects it answers well for *antiseptic injections into the rectum, uterus or bladder.*

(14.) In cases of Cholera and Dysentery, 1 to 2 dr. doses of the Fluid should be given from time to time. It is a good antiseptic stomachic. In dyspeptic cases whether in man or animal it may be given after meals, with the result of checking undue fermentation and consequent diarrhoea.

SARACA INDICA.

Syn.—*Asoka* (Hind. and Beng.); *Jasudi* (Bomb.); *Ashoka* (San).

Part employed.—The Bark.

N. O.—*Leguminosæ.*

Habitat.—*East Indies.*

Characters.—The bark is smooth, of a dark brown or ash colour externally; internally fibrous, with a pale reddish tinge; taste astringent.

Therapeutical properties.—The bark has astringent and uterine sedative properties. It is much prescribed with milk in uterine affections, chiefly in *Menorrhagia*. It is also useful in the treatment of *Hemorrhoidal Tumors*.

Preparations and Dose.—Fl. Ext. 15 to 60 mins.

SAW PALMETTO.

SERENOA SERRULATA.

Syn.—*Sabal Serrulata*, R. and S.; *Chamærops Sarrulata*.

Part employed.—The Fruit.

N. O.—*Palmae.*

Habitat.—*Florida to South Carolina.*

Characters.—Stem, 4 to 8 ft. long, creeping, branching; leaves, 2 to 4 ft. long, circular in outline, fan-shaped, bright green, shorter

than the slender plano-convex, more or less spiny-edged petiole; the numerous (15 to 30) erect divisions slightly cleft at the apex, and without thread-like filaments in the sinuses; spadix densely tomentose. much shorter than the leaves; petals scarcely united; style slender; drupe avoid-oblong.

History.—Medical attention was called to it by its superior fat producing properties in animals that feed upon its fruit. It was noticed that as soon as the berries matured, the animals that feed upon them grew very sleek and fat. Dr. Reed noticing the very marked health of the animals that feed upon the berries concluded to try it as medicine. The result was that he found the berries to improve the digestion, increase flesh, strength and weight, and readily relieve irritation of mucous tissues, especially that of the nose and air passages.

Physiological actions.—It has a special action upon the glands of the reproductive organs, as the mammæ, ovaries, prostate, testes, &c. Its action is that of a great vitalizer, tending to increase their activity, to promote their secreting faculty, and add greatly to their size. It appears to exercise somewhat special and sedative action upon the bronchial mucous membrane and seems to assist in constructive metamorphosis.

Therapeutical actions.—It is sedative, nutritive and and diuretic. It is said to improve digestion, increasing the flesh and strength. It allays irritation of the mucous membrane of the nose, throat and air passages, and has been used with decided success in Aphonia, Ozæna, Intestinal Hemorrhage, Affections of the Throat, Respiratory Organs, Prostate, Testes, Uterus and Ovary.

(1.) *Affections of the Throat and Respiratory Organs.*—Perhaps no remedy yet brought forward has met with more positive good results in diseases affecting the throat, bronchial tubes and lungs. *Whooping ccugh* under its use has been cut short. In one case it very promptly arrested a serious *hemorrhage of the lungs*, and while it checks hemorrhage and cough, it also increases digestion and assimilation, so that the patient very rapidly regains his flesh and strength. It is a valuable remedy in *Asthma*. (Dr. Stephen F. Dupore.) Dr. Reed used it in *Catarrh or Colds, Ozæna and Chronic*

Bronchitis with marked success. In its habitat it has been used with marked success in *old Bronchial Cough, Catarrh and Whooping Cough*. It is also useful in *Acute and Chronic Laryngitis Phthisis, &c.*

(2.) *Affections of the Testes and Prostate*.—It is specially indicated in all cases of *wasting of the testes*, such as follows *varicocoele*, or is induced by *masturbation*, or which is often present in *sexual impotency*. In *atrophy of the prostate*, so very common in cases of sexual perversion, it operates in a most remarkable manner, in overcoming the withered blighted state of the gland. When the hair becomes gray and scanty.....the prostate gland becomes increased in size, and this, irrespective of age. Nine men out of ten have *enlarged prostate*, and one *atrophy*, ages from 35 to 75, respectively, the result either of early indiscretion, as *masturbation or excess*, or perversion of the sexual act, or sedentary habits, or from improperly cured gonorrhœa.

A man with prostatic trouble has always impaired sexual power, verging on partial or complete impotency, with wasting testes; with urinary trouble, either a frequency, or a dribbling, a lack of power of propulsion.

Saw Palmetto was used in several cases of both *enlarged and atrophied prostate*, in which the size of the prostate was equalized, the stoppage, dribbling, lack of force, completely overcome, and the improvement in the sexual power steady and most gratifying. A perfect rejuvenation follows the use of the Palmetto; the general nervous system becomes balanced and reinvigorated.

(3.) *Gynæcology*.—In gynæcological practice it is much used to promote the growth of the mammæ. In uterine atrophy dependent upon ovarian blight its action is unexcelled.

(4.) The fluid extract of this invaluable berry is a nutrient tonic, being useful in Marasmus and General Debility.

Prep. and Dose.—Fl. Ext., $\frac{1}{2}$ to 2 fl. drs.

SCOPOLIA CARNIOLICA.

Part employed.—*The Rhizome.*

N. O..—*Solanaceæ.* *Habitat.*.—*Germany.*

Chemical Composition..—The Rhizome contains .5 per cent. of hyoscyamine in an almost absolutely pure condition and a mere trace of hyoscine. No atropine was found in this rhizome, although it is, in fact, a matter of doubt as to whether atropine is actually present even in belladonna, or indeed, in any plant; for in the presence of an alkali it is generally maintained that hyoscyamine and hyoscine readily are converted into atropine, and it is by many believed that the natural state of the alkaloid in *Atropa Bellodonna* is that it is hyoscyamine, and that it is in same way converted into atropine.

Therapeutical properties..—From experiments of Drs. Lauder Brunton and Sir Dyce Duckworth it has been found that the preparations made from this rhizome possess properties similar to, yet not identical with, those of *Belladonna*; apparently with the advantage in favour of *Scopolia*. It does *not* give rise to *dryness of the throat* which is produced by belladonna and it did *not* in cases where it was used internally produce *dilatation of the pupil*. The use of liniment was very efficacious in *reducing pain and swelling in rheumatism*.

SCOPOLIA JAPONICA, S. LURIDUS.

Syn..—*Japanese Belladonna.* *Part employed.*.—*The Plant.*

N. O..—*Solanaceæ.* *Habitat.*.—*Nepaul and the Himalaya.*

Therapeutical properties..—As a *mydriatic* it appears to be equal if not superior, in power to *Belladonna*. A tincture prepared from them in the proportion of 1 oz. of the rhizome to 8 ozs. of alcohol, was administered to different patients with the effect of producing *extreme dilatation of iris*, and this to such an extent as to cause *blindness*, which only disappeared when the medicine was discontinued. Largest dose given was 20 drops of the above tincture during 24 hours. Locally applied its power as a *mydriatic* is equally well marked.

SCOPOLEINE (*Scopoline*.)

Therapeutical properties.—Scopoline, the alkaloid from the root of *Scopolia Japonica*, has similar properties to the plant just mentioned. *It dilates the pupil more rapidly than Atropine; its action is not only very energetic but lasts longer than that of Atropine.* It is spoken highly of by Mr. H. P. Dunn, who prefers it to Atropine in the treatment of *Keratitis, Corneal Ulcers, and Iritis*. When both Atropine and Eserine have failed in troublesome Corneal Ulcers, the use of Scopoline has been attended with success. Although he has used it in many cases, he has *not* in any one of them seen *irritation* resulting from its use. He believes that in addition to its mydriatic action, it possesses some control over the vascular supply of the eyes. The strength of the solution used by him is one grain to the ounce. *It has no irritative action on the conjunctiva and is a strong antagonistic to the action of Eserine.*

SEDUM ACRE, (*Linne.*)

Syn.—*Stonecrop, Wall pepper, Mossy stone crop, small house-leek; Jaubarbe acre, (Fr.); Mauerpfeffer, Steinkrantz, (Ger).*

Part employed.—*The entire plant.*

N. O.—*Crassulaceæ.*

Habitat—*Europe. Runs wild in some places in North America.*

Characters and Chemical Composition.—This little moss-like spreading plant grows in dry fields and on old walls. Its leaves are one-eighth to a quarter inch (3 to 6 Mm.) long, alternate, nearly imbricate, in about six spirally turned rows, ovate, thick, convex on the back, punctate and smooth. The flowers are on one side of the branched inflorescence, forming scorpoid cymes, and have four or five yellow petals, the same number of pistils, and twice that number of stamens. The plant is inodorous and has a mucilaginous and acrid taste. Mossy stone crop contains much mucilage and malates (Vanquelin) also rutin (mylius): its active principle has not been isolated.

Physiological actions.—Stone crop is an active local irritant, and also a depressor of the nervous system. In large doses the expressed juice acts as an acrid emetic and purgative, and is capable of blistering the skin.

Therapeutical actions.—The juice of the plant has *superior emetic* properties; the *emesis* is *copious* and *causes little pain or fatigue* and for this reason it is *effectively* employed for removing the false membranes in Diphtheria. It is also found useful when it is applied bruised or its expressed juice is used as an application to *Scrofulous, Cancerous, and Scorbutic Ulcers*, as a *resolvent* to *enlarged lymphatic glands*, and as a dressing to chronic diseases of the skin. The juice has also been used to remove warts and corns.

(1.) *Diphtheria and Membranous Croup.*—Dr. Louis Duval has used it in the treatment of *Diphtheria* with *great success*, depending on the removal of the false membrane by copious vomiting, after which the diphtheritic foci are prevented from again forming, by cleansing and disinfecting, the cleared mucous parts are protected from the formation of false membranes. After complete elimination of all membranous deposit *stimulants* are given. It is said that the juice when locally applied, infiltrates the false membranes and destroys or loosens their connection with the m. m.; once loosened they are easily *ejected by vomiting*.

P. O. Wagener, M. D. claims its value does not depend upon a specific property of curing diphtheria, but upon *its power of loosening the false membrane in the second stage of the disease, thus preventing death from suffocation*. So it is *valueless* in the *first stage* of the disease and should only be employed when the false membrane has been developed. For the last three years he has employed the following formula:—

R. Fl. Ext. Sedum Acre oz. 1, Spts. Turpentine, Acid Lactic, Fl. Ext. Aconite, ââ drs. 2. M. One application should be made with this mixture with a brush every three hours for 20 minutes, and if by this time vomiting has not commenced, a glass of warm water with a teaspoonful of lard in it will cause copious emesis, and the membrane will be entirely expelled. Sedum acre is similarly beneficial in *Membranous Croup*.

Preps. and Doses.—Dried Plant, 10 to 15 grs.

Succus, 8 to 30 grs. in wine.

Fl. Ext. of the whole plant, 15 to 30 mins.

SENNA PODS.

Characters.—The legumes or pods are pendulous, oblong, membranous, about an inch and a half long, and five eighths broad, quite straight, tapering abruptly to the base, and rounded at the apex, deep brown in colour. They contain many obovate-cuneate, compressed, pale coloured seeds.

Therapeutical properties.—It has been recently found that the legumes or pods of the senna tree *purge in a less degree than the leaflets*. The infusion of senna pods is *almost free from taste and smell* and is devoid of the characteristic odour and flavour of leaflets. It *excels in its efficacy Cascara, and is as harmless as Castor Oil*. It increases the activity in the muscular movements of the whole intestinal canal and acting quite as much on the colon and rectum as upon the small intestines. *An ordinary dose produces without fail one motion, of soft consistence in from 8 to 10 hours and without exciting any congestion of the pelvic vessels or increasing or aggravating hemorrhoidal or menstrual discharges like senna leaves*. It is in fact a reliable evacuant free from irritating properties such as cause griping and flatulence. It does not appear to be excreted through the milk in the nursing mother, as was found in one case where child was unaffected by it. Administered regularly for several nights in intestinal torpor, it increases the digestion and appetite and promotes natural evacuation of the bowels, so that the quantity taken requires to be decreased and eventually it can be dispensed with.

It is useful in cases depending upon impaired muscular movements from defective innervation, usually associated with flatulence and intestinal discomfort, useful also in piles and in constipation in children and the aged.

Preps. and Doses.—6 to 12 pods for adults, and 3 to 6 for children and aged. they are best infused in a glassful of cold water for 6 to 8 hours, and the whole taken.

Fl. Ext., $\frac{1}{2}$ to 1 dr. in cold water at bedtime.

ACIDUM CATHARTICUM.

Characters.—A brown amorphous glucoside obtained from Alexandrian Senna, soluble in water and almost tasteless. (It is also prepared from Frangula Bark and Rhubarb).

Therapeutics.—It acts as a mild cathartic without having the nauseating and griping properties of the drug, and is easily administered, being tasteless and soluble in water.

Dose.—4 to 8 grs. in pills, or in water and syrup.

SHEPHERD'S PURSE.

CAPSELLA BURSA-PASTORIS, *Mœench.*

Part employed.—The Herb. *N. O.*—Cruciferae.

Habitat.—Europe and widely naturalized.

Therapeutical properties.—It has diuretic, hæmostatic, stimulant and tonic properties. Dr. Harrison recommends it in all forms of Kidney affections. Dr. Kissel has used it advantageously in chronic diarrhœa, dropsy of the abdomen, &c. The tincture in doses of 4 to 6 tablespoonfuls has considerable hæmostatic powers; instead of tr., the fl. ext. in doses of 1 to 2 dr. is similarly useful.

Preps. and Doses.—Pd. Herb, 15 to 60 grs.

Fl. Ext., $\frac{1}{4}$ to 1 fl. dr.

Tr. (1 to 8 Pf. Sp.), 1 to 4 fl. drs.

SIEGESBECKIA ORIENTALIS.

Syn.—Herbe de Flacq, Herbe grasse, Guerit-vite, Herbe divine.

Part employed.—The Plant.

N. O.—Compositæ.

Habitat.—From Persia eastwards to Japan, and thence South to Australia.

Therapeutical properties.—The drug possesses powerful alterative, healing, stomachic tonic, parasiticide and stimulant properties. It is largely prescribed in Mauritius, as an alterative, in combination with iodide of potassium, in Gout, Scrofula, Venereal and Skin Diseases. It is an excellent stomachic tonic, possessing properties

similar to Chamomile or Sarsaparilla. It is also useful in Scurvy. In Tahiti it is employed to enrich the blood and promote menstrual discharge in cases of Anæmia and Retarded Menstruation. Externally it is employed in cases of *Gangrenous and Sloughing sores and in different varieties of Tinea*.

(1.) *Tinea*.—Dr. Hutchison has used it successfully in different varieties of *Tinea*. Of 15 cases treated, 8 were of *T. Sycosis*, 2 of *T. Tonsurans*, and 1 of *T. Versicolor*. In all of them equal parts of Tr. of Siegesbeckia and Glycerine were used and ordered to be well rubbed into affected area night and morning.

(2.) *Gangrenous and Sloughing Sores*.—Dr. Pellicot strongly recommended a poultice, made of the bruised leaves of the fresh plant, to be applied to the affected parts. In days nearer our own time, an application made of Tr. Siegesbeckia 10 to 20 mins, Glycerine oz. 1, Cocaine Hydrochl. 10 grs., is applied as a dressing.

(3.) *In Ulcerations of the body*, such as of the Tibia, and Tumours, &c., the above combination is useful; and in *ulcerations of the mucous membrane*, equal parts of tincture and glycerine are employed.

(4.) *In Thrush*, Tr. drs. 2 and Syrup oz. 1, mixed together and painted on the affected parts thrice daily, has been found beneficial.

(5.) *Anæmia, granular lids due to debility*, the following is useful :—

R Tr. Siegesb. drs. 4 to 6, Sodæ Bicarb. dr. 1, Syr. Limonis ozs. 5. M. Dose: drs. 2 to 4 for adults, and dr. $\frac{1}{2}$ to drs. 2 for children.

Preparations and Doses.—Syrup (2 ozs. of green plant ground with a little water, and 2 parts of sugar added to each liquid part, then heated and strained through thick flannel), 1 to 2 ozs. for adults, and 1 to 4 drs. for children.

Tincture (1 to 8 Rect. Sp.), 10 to 30 mins.

DARUTINE.

It is the active principle of *Siegesbeckia* and is identical with Salicine and indistinguishable from that derived from Willow bark. In all probability remedial value of it is for the most part due to Salicine therein.

SIERRA SALVIA.

ARTEMISIA FRIGIDA, Willd.

Syn.—Mountain Sage.

Part employed.—The Herb.

N. O.—Compositæ.

Habitat.—Western United States.

Therapeutical properties.—It is a new substitute for Quinine. It is less inclined to disturb the patient's system, for it produces no head symptoms, such as ringing in the ears, deafness and temporary delirium. It is adopted in the treatment of *Rheumatism, Sciatica, Neuralgia and general malaise of a malarial region*. In the treatment of *periodic fevers*, a teaspoonful of the fluid extract is given in a glass of strong, hot lemonade, one hour before the expected chill, and repeated in 30 minutes if perspiration is not produced. In *Rheumatism, Scarlet Fever, Diphtheria, &c.*, it is given hot as above, and repeated every half hour until perspiration and urination are certainly established.

Preparations and Doses.—Pd. Herb, 1 to 2 drs.

Fl. Ext. 1 to 2 fl. drs.

SODII BENZOAS.

$\text{Na C}_7 \text{H}_5 \text{O}_2$.

Characters.—A white semi-crystalline or amorphous powder, odorless or having a faint odour of benzoin, of a sweetly astringent taste free from bitterness, and having a neutral reaction. Readily soluble in water.

Therapeutical properties.—Benzoate of Sodium has antiseptic and antizymotic properties. It also acts as a prophylactic and hepatic stimulant. It does not nauseate, depress, or cause any cerebral symptoms. It is a powerful remedy in all affections arising from

the presence of contagious matter in the system and in all contagious diseases depending on vegetable parasites and micro-organisms, as Septic Fevers, Scarlet Fever, Uræmia, Phthisis, Diphtheria, Whooping Cough, &c. It is also a most effective remedy in Infantile, gastric and Intestinal Catarrh, Acute Rheumatism and Gout.

(1.) *Phthisis*.—It is valuable remedy in Phthisis, both internally and as a spray, for which a 5 to 10 per cent solution may be used.

(2.) *Whooping Cough*.—Benzoate of Sodium having been tried as a remedy in whooping-cough by Dr. J. S Hill he found that it did not notably diminish either the frequency or intensity of the paroxysms. It did, however, appear to promptly stop the vomiting which, in some cases, was a serious complication of the disease. Ten grains every three hours was the dose used for children, about three years old.

(3.) *Diphtheria*.—It is given repeatedly in Diphtheria on account of its antiseptic properties. It may be given in doses of 2 to 6 drs. per day for an adult; and may also be used in the form of a spray of 5 to 10 per cent solution. A solution of the strength of 5 per cent forms a very efficient gargle for children.

(4.) *Uræmia*.—Starting from Cohnheim's theory of uræmia, and from the fact that Benzoate of Soda inhibits the formation of urea within the system, Dr. A. S. Partzeosky, of Moscow, administered this substance in ten cases of uræmia. The drug was given every hour, in daily doses of one to two drams—nine cases recovered, one died. Analysis of the cases leads to the conclusion that benzoate of soda cuts short uræmic attacks the convulsive phenomena gradually disappearing and giving place to a deep sleep, which in the majority of cases terminates by passing into full consciousness. Given on the first appearance of symptoms, the salt may prevent any further development of the attack. Albuminuria mostly disappears altogether.

(5.) *Cystitis*.—In passing through the system the benzoic acid is converted into hippuric acid, hence the value of this salt in Chronic Cystitis with alkaline urine. It is also useful in Mycotic Catarrh of the bladder.

Doses.—10 to 30 grs. as an average adult dose ; but in Uræmia, Septic Fevers, Diphtheria, &c., large doses, from 30 to 90 grs. every 1 to 2 hrs., should be given.

SODII BICARBONAS.



Therapeutical properties.—It is to be preferred in the alkaline treatment of Stomach Diseases, while the bicarbonate of potash is preferred when it is desired to promote oxidation in the system, or to alkalize the renal flow. While soda is a splendid salt to relieve one of acidity for the time being, its protracted or systemic use is liable to increase the tendency to sour stomach ; it makes the gastric juice more acid, particularly if given before meals, It is given in atonic dyspepsia, pain between the shoulder-blades, and flatulence without constipation, but should be taken before meals.

(1.) *Biliary Calculi.*—Bicarbonate of Soda in doses of 1 to 2 drs. in large quantity of warm water is very useful in facilitating the expulsion and relieving sickness in Biliary Calculi.

(2.) *Burns.*—Externally in a saturated solution it is effectively applied to the recent burns, as soon as they are produced.

(3.) *Tonsillitis.*—M. Giné, Professor Chemical Surgery, at Madrid, affirms that the repeated application topically of bicarbonate of sodium is of incontestable efficiency in tonsillitis. The powder may be projected through a tube on to the inflamed parts, or applied directly with finger. The relief is often immediate, and the cure often rapid, sometimes requiring but twenty-four hours. The application is rarely inefficacious, and often aborts the disease in its prodromal stage. M. Giné also considers these applications of great benefit in hypertrophy of the tonsils, often obviating the necessity of an operation.

SODII CHLORIDUM.



New Therapeutical properties.—(1.) *Epilepsy.*—Cases of Epilepsy or attacks of Petit-Mal have been prevented by eating half a teaspoonful of common salt on the first indication of aura.

(2.) *Cephalalgias*.—In cases of Migraine accompanied by symptoms of gastric distress, a half or a whole teaspoonful of common salt taken and a little water drunk over it is very efficient. In Neuralgic Headache, a pinch of chloride of sodium snuffed into the affected nose gives relief to the neuralgic headache; about half a drachm is sufficient.

(3.) *Neuralgias*.—It is claimed that every case of Facial Neuralgia, Toothache, and Earache, may be cured by the application of powdered chloride of sodium to the nasal mucous membrane. The salt may be used by the patient as a snuff, a pinch being taken into the nostril of the affected side or applied by insufflation. Dr. George Leslie has thus treated 40 cases of Facial and other neuralgias, odontalgia, &c.; in most cases the relief was instantaneous.

(4.) *Styptic*.—A teaspoonful taken frequently is said to stop *internal bleedings*, and may also be used externally to stop the *hemorrhage from wounds*.

SODII CREOSOTINAS.

Characters.—A fine crystalline powder, with a distinctly bitter and not disagreeable taste. Soluble in 24 parts of warm water, from which it does not separate on cooling. (The free acid crystallizes from aqueous solutions in long shining needles; it melts at 151°C ., and sublimes undecomposed).

Therapeutical properties.—Professor Domme instituted some comparative therapeutic experiments with the three compounds of creosotinic acid. He reports that only the paracreosotinic acid is of use in medicine, the ortho and meta compounds proving one inactive and the other dangerous. Prof. Loesch found that sodium paracreosotinate is well tolerated by adults in doses reaching to 6 or 8 grms. (90 to 120 grs.) daily. A part of the compound appears to pass unaltered into the urine, which then gives a violet colour to ferric chloride. Administered to children it behaved as an active antipyretic in large doses, 1 gm. (15 grs.) having been given to a child 12 years old within three hours. It is further stated that good results have been obtained with the salt in the treatment of Acute Gastro-Intestinal Catarrh in children.

SODII ETHYLATIS LIQUOR.

Characters.—A colourless liquid of syrupy consistence, becoming brown by keeping. Sp. gr. 0·867. It contains 19 per cent. of the solid salt, $\text{Na C}_2 \text{H}_5 \text{O}$.

Therapeutical properties.—(1) *Nævus.*—It is an useful and effective application for *Nævus*. Several very severe cases have been reported in which a complete cure eventually resulted. One very important point in the treatment is *to allow the dry crust to fall off itself and never to use force to remove it nor to allow a poultice to be applied to hasten the removal.* For, if this be done, the scab becomes putrid and *septicæmia may arise*, a result that actually followed in one case although in a very slight degree.

(2.) *Hairy Moles.*—It is very useful for the removal of hairy moles which so often disfigure the face, especially in women. First cut the hair as close to the mole with a fine scissor and then paint it over with the ethylate by a fine glass rod. When the mole has a varnished look from the application, then gently rub in the ethylate with the glass rod to make it penetrate more deeply into the hair follicles; now the mole will be detached in three weeks and the surface of mole will have a much lighter colour than before.

(3.) *Vascular Growths and Areas.*—It is a valuable caustic for *vascular growths*, causing little or no pain. No water should be allowed to touch the part under treatment. It is also useful in *vascular areas* seen on the sides of the nose in children, formed by the vessels radiating from common centre; a small drop of ethylate applied to the very middle of vascular area, destroys or obliterates the vessels below.

(4.)—It is an useful application in *obstinate cases of Ringworm* and has been used very successfully in *Lupus*.

SODII FLUOSILICAS.

Therapeutical properties.—Fluosilicate of sodium has been recently brought forward as an inodorous and non-irritating antiseptic and disinfectant. Its solution is sold under the name of *Salufer*. A 2 per cent solution in water forms an useful *antiseptic dressing*.

The same solution is used as a gargle in *Diphtheria*. A solution of 1 in 1000 is a valuable injection in *Gonorrhœa*. It is preferred by some as an useful adjuvant in *Dentifrice*, owing to its being odourless, antiseptic and non-irritating.

SODII HIPPURAS.

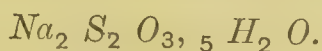
Characters.—A white amorphous powder readily soluble in water.

Therapeutical properties.—Hippurate of Sodium is useful for Gout, Gravel, Uric Acid Calculi, and other affections depending upon excessive production of Uric Acid in the system. In these affections it is given in combination with a salt of Lithium or Potassium as in the following formulæ :—

- (1.) R. Sodii Hippur. grs. 112, Pot. Citr. grs. 170, Syr. drs. 6, Aquæ Menthæ Pip. ad. ozs. 6. M. Sig. drs. 4 t. d.
- (2.) Sodii Hippur. grs. 75, Lithiæ Carb. grs. 24, Glycerini drs. 4 Aquæ ad. ozs. 8. M. Sig. 4 drs. t. d.

Dose.—5 to 15 grs.

SODII HYPOSULPHIS.



Syn.—Thiosulphate of Sodium.

Characters.—Large, colourless, transparent, monoclinic prisms or plates, efflorescent in dry air, odorless, having a cooling, somewhat bitter and sulphurous taste, and a neutral or faintly alkaline reaction. Soluble in water, but not in alcohol.

Therapeutical properties.—Hyposulphite of Sodium is useful in cases of Blood Poisoning, Aphthæ, Boils, Scrofulous Abscesses, Diphtheria and Puerperal Fever. It is also indicated in Sarcinæ Ventriculi, Scrofulous, Syphilitic and Rheumatic Affections.

(1.) *Hydrophobia*.—It is useful in Hydrophobia both as a prophylactic and during the attack. After a bite from a mad dog, it should be given in 5—10 gr. doses every four hours for the first four days, then thrice a day for a week, then every morning early for a month, with Turkish bath twice a week. When the disease

has developed give it every 2 hours, with vapour or dry hot air baths or prolonged hot water baths containing Hyposulphite of Soda. For disguising its nauseous taste, it is best prescribed with Bicarbonate of Soda, Sulphate of Magnesia and Peppermint water.

(2.) Externally it is sometimes used as a lotion, for parasitic skin diseases, in the strength of dr. 1 to a pint of water.

(3.) *Depilatory*.—R. Sodii Hyposulphite 3 parts, Quick Lime 10 parts, and Starch 10 parts; powder them finely and mix together.

Dose.—10 to 60 grs.

SODII NITRIS.

Characters.—A white deliquescent powder, inodorous, and readily soluble in water.

Physiological actions.—*Vide* Amyl Nitrite and Nitro-Glycerine.

Therapeutical properties.—The action of Nitrite of Sodium is slow and persistent, while Nitro-Glycerine and Amyl Nitrite act rapidly and their result is not so lasting. Nitrite of Sodium does not cause throbbing in the head, pain, giddiness, &c. which are apt to be produced by Nitro-Glycerine when not cautiously given in medicinal doses. Nitrite of sodium is useful in all conditions where symptoms are attributed to, or associated with, increased vascular tension. It has been used with marked success in the treatment of Angina Pectoris, Pseudo-Angina, Asthma, Neuralgia, Megrim, Rheumatism, and the various forms of Bright's Disease, and Epilepsy.

(1.) *Asthma*.—F. Pearse, M. D. says: "Of the thousand and one remedies tried in Asthma nothing is equal to the following:—R. Sodii Nitritis grs. 3—5, Tr. Hyoscyami dr. 1, Aquæ ad oz. 1 M. Sig. To be given frequently as indicated.

(2.) Four cases of Aortic disease with regurgitation improved under Nitrite of Sodium.

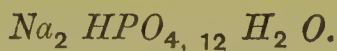
(3.) *Angina Pectoris*.—Administered in 5 gr. doses every 4—6 hrs. with Belladonna Plaster over the cardiac region continuously for some weeks is quite sufficient in cases of Angina Pectoris. Dr. Mortimer Granville recommends the following formula:—R. Sodii

Nitritis grs. 36, Sodii Hippuratis, drs. 3, Inf. Serpent. ad ozs. 12.
M. Sig. Two tablespoonfuls 3 times a day before meals.

(4.) The above formula is also useful in Epileptiform convulsions.

Dose.—2 to 10 grs.

SODII PHOSPHAS.



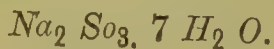
Physiological actions.—Phosphate of Sodium lessens acidity of the mouth, stomach, bowels, renders contents of the thoracic duct and the blood more alkaline, and renders urine and sweat alkaline. It lessens the quantity of fibrin in the blood. Has a distinct specific action on the glandular organs of the intestinal canal.

Therapeutical actions.—It is cooling and slightly antipyretic. It is a good and mild laxative when purgatives are required as in Chronic Rheumatism. It is useful as an application to chronically inflamed joints.

In the summer diarrhoea of infants and children, with want of digestive power, in which stools are clay coloured or habitually greenish, it is useful when remedies for diarrhoea seem to irritate rather than do good. To nursing children it may be given in milk, 10 grs. in each bottle, or after eating dissolved in little water. Should be given always in repeated small doses and not in a single large dose.

It is also useful when there is habitual constipation with occasional attacks of diarrhoea in young children.

SODII SULPHIS.



Characters.—Colorless, transparent, monoclinic prisms, efflorescent in dry air, odorless, having a cooling, saline and sulphurous taste, and a neutral or feebly alkaline reaction. Soluble in water, less so in spirit, and only sparingly in alcohol.

Therapeutical properties.—It has alterative and decided antiseptic properties. It destroys bacteroid organisms and arrests putrefaction. It has been used with good effect in Sarcinæ Ventriculi, Enteric Fever and Septic conditions of the blood. It is recommended in the treatment of Small Pox internally. Dr. Sansom gives it in doses of 20 to 30 grs. dissolved in water and repeated every 3rd or 4th hour.

Dose.—10 to 60 grs.

SODII SULPHO-BENZOAS.

Prep.—It is prepared by taking 14 grms. of Benzoic Acid, and dissolving it in solution of 30 grms. of Sulphite of Soda in 500 grms. of water.

Therapeutical properties.—Sulpho-Benzoate of Soda may be used to preserve food. Excellent results have been obtained by the dressings of it. Solution of 4 to 5 grms. to a litre of water was employed in cases of Abscess, Surgical and other Wounds. In quantities of 4 to 8 grms. to a litre of water is beneficially employed as fomentations and as an efficient antiseptic lotion for the wounds. It is superior to Carbolic Acid, Mercury and Iodoform. In the treatment of simple chancres it is as efficient as Iodoform and is applied in the form of powder.

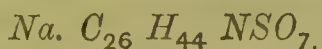
SODII SULPHOCARBOLAS.



Characters.—Colourless transparent rhombic prisms, inodorous or nearly so, with a cooling saline and somewhat bitter taste. Readily soluble in water, less so in spirit, the solutions being neutral in reaction.

Therapeutical properties.—Sulphocarbolate of Soda is indicated in Exanthemata, Septic conditions of the blood, Septic and Continued Fevers and Suppurative Inflammation. Like Sulphite of Sodium it is also given in Small Pox in doses of 20 to 30 grs. It is useful in Dyspepsia, Phthisis, Flatulence, Diphtheria, Cholera, &c.

Dose.—10 to 15 grs; maximum dose 60 grs.

SODII TAUROCHOLAS.

Therapeutical properties.—It is a new biliary salt, brought forward by Dr. Mortimer Granville as a remedy for defective digestion and assimilation, and for Obesity in cases in which fat is accumulated instead of being burnt off in the system as nutritive fuel. It is also useful in Bilious Anæmia, some varieties of Gout and Gouty obesity. It is particularly suited to the treatment of those Hepatic Affections to which Anglo-Indians are especially liable. It may be advantageously combined with Pancreatine. No purging results, but digestion is facilitated and a gentle laxative action manifests itself.

Mode of Administration and Dose.—3 to 6 grs. in pills coated with Keratin, so as not to dissolve in the stomach but during intestinal digestion, and given at or immediately before meals.

OTHER RARE SODIUM SALTS :—

(1.) SODIUM BOROBENZOATE.—Given in combination with tonics. *Dose*, 10 to 15 grs.

(2.) SODIUM KOUSSINATE.—Used for worms, tænia especially. *Dose*, 1 to 3 grs.

(3.) SODIUM SANTONATE.—Also as a Vermifuge. *Dose*, 5 grs.

(4.) SODIUM THYMOLATE.—As a Carminative and Antiseptic. *Dose*, 5 to 20 grs.

SOLANUM CAROLINENSE, —Lin.

Syn.—Horse-nettle, Bull-nettle, Sand-brier, Treadsaf.

Part employed.—The fruit. *N. O. Solanaceæ.*

Habitat.—South Eastern States. Grows abundantly in the vicinity of Charleston.

Characters.—A low perennial plant, with stems 1—2 ft. high, erect, branching hirsute with 4—8 rayed stellate hairs, armed with stout, straight, yellowish prickles, hollow, firm and almost shrubby at the base but annual. Leaves are armed on veins and petiole with the same yellow prickles, stellately pubescent, ovate or oblong,

4—6 inches long, obtusely sinuate-lobed or toothed or sinuate-pinnatifid, abruptly contracted into a short petiole of $\frac{1}{2}$ — $1\frac{1}{2}$ inches in length. Racemes simple, soon lateral, opposite to and often longer than the leaves, slender, 3-several flowered. Calyx-lobes acuminate, 5 parted. Corolla bluish-white, $\frac{3}{4}$ /1 inch wide. Berries globose $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter, orange-yellow when mature. It is so tenacious of life that it is almost impossible to get rid of it when once fully introduced. It grows in patches so thickly as to deter stock from feeding among it, and even to monopolize the soil, while its roots gradually extend around to a great depth. It seems to prefer sandy soil and it is on that account sometimes called sand-brier.

History.—Dr. J. L. Napier, of South Carolina first heard of the Horse-nettle as a remedy for epilepsy during the summer of 1887. He then heard of a negro-girl who had been an epileptic from early childhood, whose epileptic seizures he had often witnessed, who undoubtedly had *le grand mal*. She had been cured and had had no return of her old trouble for several years. The negroes who used it made a tincture by steeping the berries in whisky. He then tried it with success in the case of a white woman who had been suffering from epilepsy for several years. This case had been the round of all physicians and all had failed to give her any material relief. *Solanum Carolinense* was recommended for convulsive affections by Dr. Francis Peyre Porcher in his interesting and valuable work "Resources of the Southern Fields and Forests," and quotes Valentine's good opinion of the plant in non-traumatic tetanus, and he mentions that amongst the negroes in the State of South Carolina it possesses some reputation as an aphrodisiac.

Therapeutical properties.—*Solanum Carolinense* has recently been brought forward as a remedy for *epilepsy and other Convulsive Affections*. It is recommended to be given in doses of a teaspoonful of a tincture of the berries every 3 hours until drowsiness and symptoms of drowsiness are produced, and then lengthen the intervals between the doses.

(1.) *Epilepsy.*—In the cases of epilepsy the patients are instructed to begin with a teaspoonful three times a day and gradually

increase the dose until it produced symptoms of vertigo, then to lessen the dose until that symptom subsided. In the summer of 1887, Dr. Napier was called to attend a woman who had suffered from epilepsy most of her life. During her menstrual periods she was generally in an epileptic condition. After trying the usual remedies, which in her case gave no relief, he gave her a teaspoonful of the tincture thrice a day, and continued the remedy for months. Three days after taking it she was threatened with a convulsion, but had no sign of an attack from that day to this. Another case was that of a dwarfed ill formed child, who had epilepsy all its life. He had used the bromides to control the convulsions, but they had no effect at all. Finally he put the child on the tincture of horse-nettle, and after that it had never had any more convulsions. He also used it with benefit in four other cases.

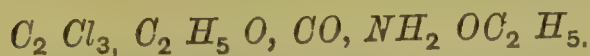
(2.) *Eclampsia*.—In the case of a pregnant woman suffering with *convulsions due to albuminuria*, good results have followed from the use of the tincture.

(3.) *In Hysterical convulsions* it has been used with prompt results.

Preps. and Doses.—Fl. Ext., 2 to 15 mins.

Tr. (I to 5 Pf. Sp.), 10 to 60 mins.

SOMNAL.



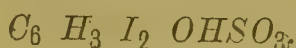
Characters.—Somnal, a combination of Chloral, Alcohol and Urethane, is a colourless liquid, readily soluble in water and one-third of its weight of alcohol. The liquid, on cooling, takes the form of needle-shaped crystals which are very deliquescent. It has a bitter taste.

Therapeutical properties.—Somnal, recently introduced as an Hypnotic, produces no gastric disturbance and neither affects the appetite nor the digestion. It has no action on the respiration, but sometimes produces redness of the face dependent upon paralysis of the vessels which is easily increased by the small quantity of alcohol. Administered in 2 gramme doses in slight restlessness it induces a quiet sleep

within half-an-hour, lasting six to 8 hrs. But in cases of deep insomnia, dependent on cerebral excitement, it is necessary to give as much as 60 grs. which generally produces sleep of from 5—6 hrs. It rarely happens that sleep comes on in half an hour ; in general it takes about 3 hours sometimes even as much as 4 or 5 till the desired effect is obtained. In cases accompanied by mental depression somnal acts better than where there is much excitement. On the whole somnal is considered a useful hypnotic, from the duration and quality of the sleep which it induces, from its having no bad effects as also from its small cost.

Dose.—30 to 60 grs. in water and syrup of orange.

SOZOIODOL.



Syn.—*Di-iodoparaphenol sulphonic Acid.*

Characters.—It is a combination of three powerful antiseptics. Iodine (54 per cent), Carbolic Acid (20 per cent), and Sulphur (7 per cent.) Inodorous and insoluble. Being insoluble, it is recommended to be employed in the form of a salt of Potassium, Sodium, Mercury and Zinc.

Therapeutics.—It is considered as an *odourless substitute for Iodoform* and is said the latter by its rapidity of action in *Scrofulous, and Tuberculous Ulcerations.*

MERCURY SOZOIODOL.

Characters.—An orange red amorphous powder, insoluble in water.

Therapeutics.—It is useful as an application to tuberculous and syphilitic ulcerations, glandular enlargements and indurations. It should be used only in the diluted form, 1 to 20, or at most 1 to 10, as it is irritant and caustic in its action.

POTASSIUM SOZOIODOL.

Characters.—In colourless crystals, only slightly soluble in water and glycerine, which dissolve only about a fiftieth part of their weight of the salt. It is odourless.

Therapeutics.—It is non-poisonous and free from cauterizing or irritating effects. As it is slightly soluble in water, it is preferable to the Sodium salt in the treatment of cases which require the application of dusting powders, &c., because of the greater duration of their effects. It may be employed as a substitute for Iodoform, for diminishing excessive secretions to a marked degree. It is like the sodium salt recommended for affections of the respiratory organs, as ozœna and laryngitis especially as an insufflation for the former in which it is very efficacious. It is used mixed with two parts of talc.

SODIUM SOZOIODOL.

Characters.—Colourless, inodorous Crystals, which dissolve easily in water and glycerine at an ordinary temperature, to the extent of about 1 in 12. Its aqueous solution gradually changes its colour when exposed to light, while the glycerine solution does not.

Therapeutics.—Like the potassium-sozoiodol it is also non-poisonous, non-irritant and free from cauterizing effects. It is topically used for Tuberculous Ulcerations in the Nose, Throat and Larynx, as it is more adhesive on account of its greater solubility, and is especially beneficial for affections of the respiratory organs, as Ozœna and Laryngitis. In Ozœna it is very efficacious when used as an insufflation. For topical use it should be mixed with two parts of talc or any suitable powder. It is given internally with most satisfactory results in doses of about 22 grs. for swelling of the glands of the Neck.

ZINC SOZOIODOL.

Characters.—This salt is freely soluble in water.

Therapeutics.—In the proportion of 1 to 12 or 7 of talc powder, it has proved useful in Rhinitis Hypertrophica and in Ozœna. An Acute Coryza may be aborted by one or two applications, best made after using a Cocaine solution, in order to allow the powder to come thoroughly in contact with the mucous membrane. Injections of a solution (1 in 50) are useful for diseases of the generative organs, such as Gonorrhœa, Leucorrhœa, &c. It can be applied mixed with also Sugar of Milk instead of Talc powder for topical uses.

SPARTEINÆ SULPHAS.

Characters.—The sulphate of an alkaloid obtained from the leaves and branches of a kind of furze called *Spartium Scoparium*. It occurs as colourless crystals, very soluble in water.

Physiological actions.—(1.) The most salient action of Sulphate of Sparteine is to raise the power of both heart and pulse; in this respect, however, it acts in a more pronounced manner, more promptly, and more constantly than either *Digitalis* or *Convallamarine*. (2.) It regulates immediately a disturbed cardiac rhythm, and is incomparably better than any other known drug. (3.) It accelerates the beats of the heart in grave atonic conditions of both the heart and the general organism, and approaches in this respect *Belladonna*. All of these phenomena appear at the end of one or several hours, and persist three to four days after discontinuation of the medicine. During this period the vital energy of the entire system is raised and the respiratory act facilitated, though not so greatly as after the exhibition of *Iodide of Potassium*. The urinary functions alone seem to remain unaffected, in the moderate doses at least in which Sée has hitherto employed the drug (Germain Sée.) It is not cumulative. It does not produce any disturbance of digestion or of the nervous system.

Therapeutical actions.—Sulphate of Sparteine has been used in Germany as a substitute for *Digitalis* in diseases of the heart. In small doses it increases the efficiency of the cardiac contraction and raises the arterial pressure. The number of heart beats is always increased. These effects are observed within an hour after the administration of the drug, and continue for twenty-four hours. Diuresis appears to take place in proportion to the improvement of the cardiac action. It is claimed to produce no disturbance of digestion or of nervous system. That while it is free from the disagreeable and dangerous after-action of *Digitalis*, it increases the power of both heart and pulse more strikingly even than *digitalis* or *Convallaria*. It has no cumulative properties.

(1.) *Heart Affections.*—(a) It exerts a most favourable influence in affections of the heart with *compensation*. Its action speedily declares itself after administration in steadying the pulse and in

general improvement of the subjective state. It is precisely this *prompt action* that is the most remarkable peculiarity of Sparteine; in power it stands far below Digitalis. Accordingly Gluzinski recommends Sparteine in cases of *uncompensated heart disease* where dangerous or very severe subjective symptoms do not admit of our waiting for the action of Digitalis; also *auxiliary to Digitalis* already prescribed; and again where Digitalis fails or is contraindicated for some reason or other. In Angina Pectoris one may try to secure good results through the speedy actions of the Sparteine.

(b) When the heart is disturbed in its action, as in Typhoid states and Febrile conditions, Sparteine is said to raise the vital energy of the entire organism and to regulate the palpitations of the heart. Seeé has, however, never noticed any increase of the urinary secretion under its influence, a fact which seems almost inexplicable in the face of the enthusiastic statements which he makes as to its power of increasing the force of the ventricular contraction. According to Sée, sparteine is indicated when the pulse is feeble, irregular, or intermittent, and where, from some other reason, digitalis or the other cardiac stimulants are contraindicated. It may be given in doses of 1/10 grain.

(b) It is useful in *Myocardiac Weakness*, no matter whether resulting from direct tissue changes or from an insufficiency subsequent to compensatory efforts on circulatory impediments.

(2.) *Morphine Habit*.—M. Ball and Dr. Oscar Jennings, after considerable experience in severe cases of *Morphine habit* find its exhibition by way of hypodermic injection in doses of one-sixth to one-third of a grain the best course of treatment, combined with the administration of Nitro-Glycerine, the latter gentleman has had great success, and considers in these agents we possess a means of delivering the *Morphine habitue* from his thralldom.

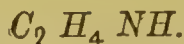
Formulæ.—(1.) Sulphate of sparteine, $7\frac{1}{2}$ grains; milk sugar, 75 grains, simple syrup, q.s. M. Div. in pill No. 50. S.—Two to ten of these pills may be given daily, according to indications; each pill contains 15/100 grain.

(2.) Sulphate of sparteine, $4\frac{1}{2}$ grains; distilled water, 32 minims; syrup of bitter orange peel, 10 ounces. M. S.—Three

teaspoonfuls of this syrup are about equivalent to two of the pills made under the preceding formula. (M. Houd).

Dose.— $1/10$ to $3/4$ to 4 grs.

SPERMIN.



Syn.—*Brown-Séquard's Testicular Emulsion.*

Chemical Properties and Tests.—According to Prof. Poehl, Spermin does not belong either to ptomaines or leucomaines, but represents an imide (an ethylene imide, $C_2 H_4 NH$, as Drs. Ladenburg and Abel have found). Messrs. Parke, Davis and Co. have recently introduced Spermin (in the shape of a hydrochlorate) as the active principle of Brown-Séquard's testicular emulsion, and at the same time, as a substitute for the latter. The most characteristic reactions of Spermin are :—

(1.) By itself spermin does not possess the characteristic seminal odour; the latter appears, however, when the substance is mixed with metallic magnesium. On heating the mixture, the seminal odour yields place to that of ammonia. Neither iodide of potassium nor acetate of lead gives rise to precipitation in solution of spermin. Hypobromite of sodium does not set free nitrogen from spermin. Fehling's solution is not reduced by the substance. Gold chloride and platinic chloride give precipitates with spermin. On heating, dry spermin evolves white vapours.

History.—For a great many years Dr. Brown Séquard believed that the weakness of old men depended on two causes,—a natural series of organic changes and the gradually diminishing action on the spermatic glands. Thinking that if it were possible without danger to inject semen into the blood of old men, he should probably obtain manifestations of increased activity as regards the mental and the various physical powers. Led by this view, he made various experiments on animals at Nahant near Boston (United States), in 1875. He made on two old rabbits experiments, which were repeated since on several others, with results leaving no doubt as regards both the innocuity of the process

used and the good effects produced on all those animals. This having been ascertained, he resolved to make experiments on himself. He made use of in the subcutaneous injections, of a liquid containing a small quantity of water mixed with the three following parts: first, blood of the testicular veins; secondly semen; and, thirdly, juice extracted from a testicle, crushed immediately after it has been taken from a dog or a guinea-pig. In all the injections, he employed as little water as he could, in order to obtain the maximum of effects. To the three kinds of substances just named he added distilled water in a quantity which never exceeded 3 or 4 times their volume, he then crushed them and filtered through a paper filter. For each injection he used one cubic centimetre of the filtered liquid. He made 10 subcutaneous injections of liquid passed through Pasteur's filter—two in his left arm, and all the others in his lower limbs from May 15 to June 4. The results were as follows:—

The day after the first subcutaneous injection, and still more after the two succeeding ones, a radical change took place in him, and he had all the strength he possessed a good many years ago. Considerable laboratory work hardly tired him. He was able to make experiments for several hours while standing up, feeling no need whatever to sit down. In short, he was so much improved, that he was able to go to work and write as much which for more than 20 years he had never been able to do. He found that the average length of the jet of urine, passed during the ten days that preceded the first injection, was inferior by at least one-quarter of what it came to be during the twenty following days. He had a greater improvement with regard to the expulsion of fæcal matters than in any other function.

Physiological actions.—From these experiments it becomes evident that the injection of testicular fluid produces a stimulating action on the heart and circulation, improves the general systemic nutrition, notably improves all the functions depending on the power of the action of the nervous centres and especially increases the power of the spinal cord over the bladder, and produces a relaxing influence on the bowels.

Therapeutical actions.—The seminal fluid secreted by the testicles contains a substance or substances which entering the blood by resorption have a most essential use in giving strength to the nervous system and to other parts. This substance or substances possess *great dynamogenic power* which our blood owes to the testicles. This is shown by the fact that the eunuchs are characterized by their general debility and their lack of intellectual and physical activity, also by the fact that how much of the mind and body of men (especially before the spermatie glands have acquired their full power, or when that power is declining in consequence of advanced age) are affected by sexual abuse or masturbation. Besides, it is well known that seminal losses arising from any cause, produce a mental, and physical debility which is in proportion to their frequency. But if what may be called spermatie anæmia leads to that conclusion, the opposite state which may be called spermatie plethora, gives as strong a testimony in favour of that conclusion. It is known that well-organized men, especially from twenty to thirty-five years of age, who remain absolutely free from sexual intercourse or any other causes of expenditure of seminal fluid, are in a state of excitement, giving them a great, although abnormal, physical and mental excitement. (Dr. Brown-Séquard).

From the above mentioned physiological actions and properties of the testicular fluid it is evident that it markedly improves patient's general states and its stimulating and tonic action on the nervous system however surpasses all other effects. It removes *constipation* and has a *diuretic* power. These injections do not give rise to any unpleasant accessory general or local phenomena beyond some slight and short-lasting pain at the site of the puncture. They do not give rise to local inflammation or suppuration. These pains and other bad effects are somewhat less when the liquid having passed through Pasteur's filter is employed than when a paper filter is used. The injections should be resorted to in all cases of failure of general Systemic Nutrition, Prostration, Senile Marasmus, certain Nervous Diseases, such as Tabes, Senile Dementia, Neurasthenia, Chronic Paralysis, and in Diabetes, &c. It is highly probable that in the young and middle-aged persons all the effects will prove still more pronounced than in old. (Dr. Pototzky and Prof. Kostuerin.)

Clinical Reports.—(1.) Prof. Kostuerin of Kharkou has been the first to introduce Brown-Sequard's method into practice in Russia. He described 8 cases of Neurasthenia, Senile Prostration, Tabes, &c., treated by the injections, the total number of which in individual cases varied between two and sixteen. The most striking results were obtained in a merchant of 56, suffering from severe tabes of twenty years' standing. After two injections (the nature of which remained perfectly unknown to the patient), his gait became steady and sure; he was enabled to stand and even make some steps with his eyes closed; tremor and anæsthesia of the hands markedly decreased; his handwriting improved most strikingly (as some illustrations adduced by the author beautifully show); pains and paræsthesias disappeared, &c. No relapse yet occurred (three months passed since the last injection). In neurasthenic cases the treatment led to a considerable amelioration of the patients' subjective state (they became cheerful and capable of working), as well as appetite, sleep, sexual power, action of the bowels, &c. In none were any disagreeable concomitant effects noticed.

(2.) Dr. M. F. Pototetzky details five highly interesting cases in which he tried hypodermic injections of Brown-Séquard's testicular fluid. In each case eight injections (alternately into the peri-trochanteric region and the arms) were made in the course of twenty days. One of the patients, aged 57, who had an apoplectic attack six months previously was suffering from right-sided hemiplegia, with aphasia, apathy, and obstinate constipation. Under the influence of the treatment all the symptoms improved. A second case referred to a man of 70, with marked arterio-sclerosis, agonising neurasthenic pains about all the four limbs, obstinate constipation, anorexia, insomnia, very weak pulse, and extreme general weakness (could not either walk or stand). The treatment was followed by the disappearance of all the symptoms. The third was a case of cancer of the larynx, dropsy, cachexia, &c. After 8 injections all symptoms subsided. The fourth was of Tabes of six years' duration; under treatment his gait and other symptoms greatly improved. The last case of Incipient Senile Dementia with incontinence of urine and fæces had improvement only in the subjective symptoms. In the second and fourth case the improvement was durable, no relapse following up to the date of communication (5 weeks after the last injection).

(3.) Dr. Fedor S. Roshtchinin has treated 15 cases of Senile Marasmus, Diabetes Mellitus, Neurasthenia, Seminal Impotence, &c., more or less successfully with the injection of a syringeful of the fluid twice a week.

STIGMATA MAIDIS (CORN SILK.)

ZEA MAYS, Linne.

Syn.—Maize, Indian Corn (*Eng.*); *Makhái buthā* (*Guj.*); *Makkā buthā*, *Makka jazara* (*Beng.*); *Mukka-jovari* (*Duk.*); *Khandarusa*, *Khalavana* (*Arab.*); *Khoshāhe-makki* (*Pers.*).

Part employed.—The Green Pistils or Silk (*Stigmata*).

N. O.—Gramineæ. *Habitat.*—Everywhere cultivated.

Characters.—Indian Corn is so well known that it does not require a description. The stigmata, or silk, should be taken when its tassel has well shed its pollen. Its active principle is *Maizenic Acid*.

Physiological actions.—Stigmata of Maize has such an action on the Kidney itself, that it augments its secreting power, and has a tonic action on the secretory membranes. Not only does it modify the secretions of the Kidneys, but causes a direct diuretic action. The diuretic action is rapid and considerable, and in three or four days is very evident. These diuretic results not only relieve the debilitated Kidneys, but lessen the action of the heart, and tone it. The pulse becomes regular and the arterial tension stronger. M. Castan believes it to be a local anodyne or anæsthetic, whereas M. Deunee regards it as having an elective action on the m. m. of the bladder. The tolerance of the drug is complete, and it can be taken for a very long time without inconvenience. It produces no disturbing effects on the nervous system or the digestive organs.

Therapeutical actions.—Stigmata Maidis is undoubtedly a diuretic of considerable power, and a demulcent and antiseptic (?) in its action. It also possesses some anodyne power over the mucous membrane of the urinary tract. It has been found especially efficacious in the treatment of Catarrhal Inflammations and Acute and Chronic diseases of the Kidneys, Bladder and Urethra. In fact the

drug has a marked demulcent and anodyne effects along the whole length of the urinary tract; and in Catarrhal disorders of the Genito-Urinary Organs it has been found superior to other medicaments formerly employed. It is regarded as beneficial in all diseases of the mucous surfaces and brings about a healthy secreting action in surfaces chronically inflamed. The stigmata have very often produced a cure after all the usual interual remedies had been tried in vain, or with only partial success. In other cases, the ordinary methods of treatment, which had at first proved more or less entirely useless, became efficacious after stigmata had been administered for a time. Most frequently stigmata alone sufficed for the cure, but still in some cases the effect was incomplete, and it was found that the treatment could be varied with benefit. It has proved decidedly beneficial in Vesical Catarrh, Acute and Chronic cystitis and other Bladder Affections, Calculus Affections, Renal Congestion, Colic, Pyelitis, Suppression and Retention of Urine, Dysuria, Vesical tenesmus and pain, Hæmaturia, Gonorrhœa, Dropsy and Affections of the Heart, &c. All these I describe clinically as follows:—

(1.) *Diuretic*.—As the stigmata of maize are a very powerful though at the same time entirely inoffensive diuretic, they have been employed with the best results in cases of Heart Disease, Albuminuria and other affections requiring diuretics. It is also useful in several cases of Typhoid and other low fevers where a diuretic is indicated. Cases have been reported in which the urinary secretion was trippled and even quintupled in the first 24 hours, and others where the exhibition of the drug was continued for two or three months without the slightest untoward effect. Drs. Paul and Landrieux insist that the amount of urine was greatly increased in cases in which the Stigmata Maidis was administered. In one notable case of Cirrhosis the urine increased from 500 grms. to 800, 1200 and 1500 grms. In a woman 68 years of age, with dropsy, with enormous swelling of the inferior extremities and enormous ascites, pulmonary congestion, and a large amount of albumen in the urine, the stigmata produced in twenty-four hours a flow of urine from 200 to 500, and afterwards 800 grms. With the disappearance of swollen extremities,

the albumen was also lessened. Before the use of this remedy tonics and digitalis had been tried, but the latter produced tonic effects and no diuretic action.

(2.) *General Bladder Affections.*—The Stigmata of Maize have a very marked, though not always a favourable, action in all *affections of the bladder, whether acute or chronic*. The best results have been obtained in cases of *Chronic Cystitis, whether simple or consecutive to gravel, and of mucous and muco-purulent catarrh*. All the symptoms of the disease, the *vesical pains, the dysuria, the excretion of sand, the ammoniacal odour, &c.*, rapidly disappear under its influence. The retention of urine dependent on these various affections often disappears as improvement progresses, but the use of the sound must sometimes be continued in order to empty the bladder completely. Injections and Irrigations of the bladder also prove useful adjuncts to the maize.

(a.) *Catarrh of the Bladder: Case 1.*—It was of the worst form; urine muddy, full of sediment and so thick and ropy that he frequently had to squeeze the penis in order to void it. His sufferings were such that he could not sit erect in the chair. $\frac{1}{2}$ dr. of the fl. ext. increased to 1 dr. every 3 hours gave him relief from the first dose.

(b.) *Retention of Urine: Case 1.*—Retention of urine during 10 years in a man of 78, who was accustomed to catheterize himself. One evening after a full supper he could not pass a sound, and finding himself bleeding considerably, Dr. Lang was called, who succeeded after great difficulty in withdrawing urine. The infusion (15 grms. in 500 c.c. of water during the day) of the cornstalk was then administered. From the second day the urine was passed normally and the infusion having been continued for a few days, the retention of 10 years disappeared. Previous to this treatment, other remedies had been tried without any result.

Case 2.—Retention of urine for 20 years, had used catheter daily. In using catheter violent tenesmus occurred and blood followed. Dr. L. gave inf. of maize, and after the third dose the tenesmus ceased. During the night the urine was passed, quite

coloured with blood. The next day the blood had disappeared, and permanent relief followed.

(c.) *Irritable Bladder*.—CASE 1.—Had to pass urine every half hour. Had resisted belladonna and other usual remedies. Under stigmata he improved within 4 days.

(d.) *Cystitis*.—Corn-silk has been employed beneficially in cases of *pure and genuine Cystitis*, both acute and chronic. Mr. Hurry Fenwick does not regard it as valuable in Acute Cystitis, but still it has some ameliorating effects. Dr. J. E. Green's favourite method of using it in Chronic Cystitis, is first to dilate the bladder to its utmost capacity with tepid water, by means of Nelaton's syringe, and having allowed this to flow out, he then injects a tumberful of clear water containing a teaspoonful of the fl. ext. of corn-silk. In several instances he has observed marked benefit from the above process, the medication seeming to have a specific action when injected into the vesical cavity. Used locally in this way its effects are more dense, permanent, and satisfactory than when taken into the stomach, as it then necessarily undergoes considerable modification before reaching the desired spot. In a short time after each injection the bladder is emptied of its contents, bringing away large flakes of pus, mucus, and broken down epithelium, with decided relief to the patient. Dr. Rush M. Brown has also treated successfully several cases of severe forms of cystitis. He used a teaspoonful to half a teacupful of tepid water and ordered the patients to retain it as long as they could. He at the same time administered 10 mins. of the fl. ext. in an ounce of water thrice a day before eating. Out of many cases I give report only of the following typical case.

CASE. 1.—E. W. Hansen, M.D., reports the case of his father-in-law who has suffered for many years with chronic inflammation of the bladder, and who was suffering from it severely at the time when the drug was tried. Was passing urine with great pain, heavily loaded with mucus, two or three times per hour, both day and night. A decoction of green silk was made and a wineglassful was given every three hours. In ten days he was completely relieved, passing urine only once in 5 or 6 hours, and completely

free from mucus and he has no return of the trouble up to this date, a period of nearly four months. He says he has not been so well for twelve years.

(3.) *Gonorrhœa*.—It is most beneficial in cases of true and spurious gonorrhœa. In the former it aids the action of the drugs administered and increases rapidity of the cure. A. H. Ohmann Dumesnil, M. D., has used it alone in spurious gonorrhœa with surprising results in a short time. In the acute stage of gonorrhœa, alternated with alkalies, it will relieve scalding in passing water, allay pain, and shorten the first stage.

(4.) *Calculi*.—Best results have been obtained by the use of Corn-silk in cases of uric or phosphatic gravel. It is beneficial in producing discharges of small calculi. Dr. Bertherand first tried it in a case of renal lithiasis of two years' standing, accompanied with nephritic colic and hæmaturia and expulsion of red sandy particles.

(5.) *Catarrhal Conditions of the Urinary Passages*.—L. B. Anderson, M. D. was called to see a medical friend who had suffered for more than a year from a muco-sanguino-purulent discharge from the urethra, accompanied with acute pain, extreme soreness and distressingly painful contractions of the bladder. Accompanying those symptoms, he experienced a most uncomfortable weight, and pulsation in the region of the Kidneys. He had consulted half a dozen physicians, all of whom pronounced his a case of Bright's disease. A chemical and microscopical analysis of the urine enabled him to diagnose inflammation and suppuration of the trigonum, and neck of the bladder, and the prostate gland. He was put on a mixture of Stigm. Maidis, Kava-Kava and Sp. Ether. Nitr., and anodyne liniment and warm fomentations externally, with milk and bread diet and demulcent drinks. His improvement was prompt and continuous.

(4.) *Renal Affections*.—(a) *Renal Colic*: Corn-silk has been satisfactorily employed in cases of Renal Colic, where it relieves the pain, gravel, cystitis acute and chronic, pyelitis, vesical irritation and tenesmus, suppression of urine, dropsy, &c. The practitioner who will use this remedy in the proper case will find that it will give a great deal of satisfaction. (A. H. Ohmann-Dumesnil, M. D.). I have had several cases of Renal Colic of late years; I usually administer a dose

of Morphine Sulphate Hypodermically and then I would follow up with :

R. Fl. Ext. Stigm. Maidis fl. oz. 1, Fl. Ext. Eupatoreum Purpur. fl. oz. $1\frac{1}{2}$, Pot. Acet. drs. 3, Sp. Juniperi, q. s. ad ozs. 4.
M. Sig.—Teaspoonful at dose *pro re nata*. (J. E. green, M. D.).

(b) *Renal Congestion* : In a number of cases of Renal Congestion, due to overwork, the use of alcoholics, cold and other causes, corn-silk has acted promptly and efficiently. In acute renal diseases or in suppression of urine, where a decided action is required, full doses—1—2 drs. of the fl. ext., well diluted with water—may be given, repeated every 2 or 3 hrs. until the desired result is obtained. In chronic cases, 20 to 30 mins, four times daily, in a wine-glassful of water, an hour before meals, acts best. It may be given for weeks or month without deranging digestion, but the doses will have to be increased if given for any length of time. Therefore it is well, after giving the corn-silk for 2 or 3 weeks in chronic renal cases, to alternate with other mild diuretics, such as Buchu and Acetate of Potash. (A. Crull M.D.).

(c) It has been used in the suppression and retention of urine in adults and infants with the best results. A lady æt. 59 had for several months frequent attacks of diminished or suppressed secretion of urine with painful micturition. Digitalis failed to give relief. The pain in the loins clearly indicated renal congestion so that stimulating diuretics were out of the question. I gave 1 dr. doses of syrup, prepared from 3 ozs. of stigmata of maize to a pint of syrup, thrice a day. Three or four doses were sufficient to produce a copious flow of urine entirely free from pain or burning.

(d) *Pyelitis*.—A gentleman had two years before several attacks of renal colic and was followed by continuous and increasing ill-health, the symptoms of which referred to some disturbance of the urinary apparatus. The analysis of the urine showed, the presence of albumen, one-eight, numerous leucocytes, some with large nuclei, young epithelial cells, some red blood-corpuscles, epithelium from pelvis of Kidney, ureters and bladder ; there were no casts. After usual remedies had failed, the fl. ext. in 1 dr. doses was given every 2 hrs and he continued to improve.

(7.) *Heart Disease*.—During the past three years Dupont has employed this extract in heart diseases with very good results. It reduces the action of the heart and increases diuresis. It is as a rule well tolerated. As a rule its diuretic action is manifest on the first day after it is administered, and not infrequently this action increases until after the third day. The amount of water excreted often increases from 500 grms. to 1500 and 2000 grms. (Pint 1 to 4). It is especially indicated in diseases of the heart with œdema of the lower extremities, or general hydrops, in which class of cases it displays its power as a diuretic. As the œdema disappears the blood supply throughout the system is better regulated, the pulse beat is more regular, the heart's action is slower and more rhythmical. While the general condition of the patient improves rapidly; dyspnœa does not seem to be influenced by the medicament. In cases of hypertrophy, contractions, and insufficiency, the same results were always noted. When compared with digitalis it acts more rapidly, while there is not so much difference between its action and that of *Convallaria Majalis*. In the beginning Dupont always administered it alone, but when he carefully studied his action he combined with it Pot. Brom., Pot. Iod., and milk. The largest dose administered was $\frac{3}{4}$ dr. t. d. one hour before each meal; with a little syrup. A. Crull, M.D., also says that in organic heart disease when there is deficiency of urine it will act as a mild but certain diuretic, increasing the flow of urine when other stimulating diuretics have failed to produce diuresis. The fl. ext. in dr. doses will relieve periodical attacks of dyspnœa in this trouble and alternated with 15 mins. of the fl. ext. of *Cereus Bonplandi*, he considers these two remedies as excellent palliatives in Functional as well as organic ailment of the heart, believing that, besides its demulcent and diuretic actions, corn-silk has anodyne properties.

(7.) *Contraindications*.—The preparations of Corn-silk should not be prescribed in Acute Traumatic Cystitis and Gonorrhœal Cystitis, as they increase the pain in such cases.

Preparations and Doses.—Fl. Ext. of the green pistils, 1 to 2 fl. drs.

Syrup (each fl. oz. representing 120 grs. of corn silk), $\frac{1}{2}$ to 1 fl. oz.

Vinum (same strength as Syrup), $\frac{1}{2}$ to 1 fl. oz.

STILLINGIA SYLVATICA.

Syn.—*Queen's Root, Queen's Delight, Yaw Root, Marcory, Cock-up-hat, &c.*

Part employed.—*The Root.* *N. O.*—*Euphorbiaceæ.*

Habitat.—*United States.*

Characters.—About 12 inches long, 2 inches thick, sub-cylindrical, slightly branched, compact, wrinkled, tough, grayish-brown, with a thick bark and porous wood, the inner bark and medullary rays with numerous yellowish-brown resin-cells; odor peculiar, unpleasant; taste bitter, acrid and pungent.

Physiological actions.—It exerts a stimulant and exciting influence upon the fauces, trachea and bronchia, and bronchial mucous capillaries. In large doses it acts as an irritant poison, causing vomiting and purging and producing a peculiar burning sensation in the stomach and alimentary canal, accompanied by more or less prostration of the system.

Therapeutical actions.—*Stillingia* possesses alterative, antisypilitic, antiscrofulous, cathartic, deobstruent, diuretic, resolvent, stimulant, sudorific and tonic properties. In large doses it is emetic and purgative. In America it is popularly reputed as a *blood purifyer* and it forms one of the ingredients of *Prof. Brown's Blood Purifyer* and *McDade's Succus Alterans* (*quo vide.*) It is chiefly efficacious in *Secondary Syphilis, Scrofulous, Hepatic and Cutaneous Affections*. It is also indicated in *Bronchitis, Pneumonia, Rheumatism, Leucorrhœa, Incontinence of Urine, Impotence and Sterility*.

(1.) *Syphilis.*—The decoction of the root has been employed by Dr. Porcher as an alterative in syphilitic sores, occurring in patients, in the City Hospital, Charleston, the spread of which

nothing else could arrest. It proved completely satisfactory in his hands. *Phagedenic Chancres* were rapidly cured under its use. A strong decoction was given thrice a day, with four drops of Nitric Acid to each dose. It is also useful in Mercurial Erythema and Stomatitis, Gonorrhœ, Gleet, &c.

(2.) *Hepatic Affections*.—It is beneficial in *torpidity of the liver*, *Jaundice* following intermittent fever, in the first stage of *Cirrhosis*, and in *Ascites* due to hepatic changes.

(3.) It is useful in *habitual Constipation with deficient secretion*, and in *Hemorrhoids* due to hepatic congestion.

(4.) According to Bartholow it is very serviceable in children who present the following symptoms: enlarged cervical glands, muco-purulent discharge from the nose, with excoriations of the surrounding integument, a pasty complexion, capricious and unnatural appetite, tumid abdomen, whitish and pasty stools; dull-red, soft and tubercular eruption on the skin, ulcerating and furnishing a large quantity of unhealthy pus.

Preparations and Doses.—Pd. Root, 15 to 40 grs.

Fl. Ext. 15 to 60 mins.

Solid Ext. 2 to 5 grs.

Stillingin (concentration) 1 to 3 grs.

STROPHANTHUS HISPIDUS; S. KOMBE (Oliver.)

Syn.—*African Arrow Poison; Kombè Arrow Poison; Mei Onaye or onage (Gaboon.)*

Part employed.—*The Seeds.* *N. O.*—*Apocynaceæ.*

Habitat.—*Widely diffused through Gold Coast of Africa, Central Portion of Dark Continent and terminating about Delagoa Bay. Also found in other tropical regions, including Batavia, Java and Sumatra.*

Characters and Chemical Composition.—There are apparently more than one species, or at least varieties, viz., *Strophanthus Hispidus*, *S. Kombé*, *S. Dichrotus* and *S. In yaie*. The distinguishing feature of these varieties being much smaller pods and fewer seeds than in the *S. Hispidus* under consideration. The *Strophanthus* is a strong

climbing plant and is always found in the vicinity of large trees, on which it supports itself. The stem of the plant varies, but may be put down on an average of from two to five inches in diameter. It lies on the ground in coils, giving one the idea of a huge boa constrictor. The branches are of a straggling nature and support themselves on the nearest trees. The young branches have a rod-like habit and much resemble young elder bushes. The fruit grows in pairs and hangs horizontally, and has the appearance of a huge pair of thorns attached by their juncture to a slender twig. The fruit begins to ripen in July and lasts till the end of September, by which time it has mostly dehisced, owing to the strong sun and exceedingly dry weather. The seeds contain two crystalline principles, *Strophanthin* and *Thein*.

History.—*Strophanthus* has been employed by the natives of Africa for poisoning the game. The natives' method of preparing the "kombé" for their arrows is very simple. Having first cleared the seeds of their hairy appendages, they then pound them in a mortar until they have reduced them to a pulp. At this point a little water is added. They use the bark of a species of *Liliaceæ* when applying the water. This particular bark is used, as the sap of it pressed out along with the water tends to make the 'kombé' more adhesive, so that it does not fall off the arrow in the event of the arrow meeting a bone when sent into the animal. The poison thus prepared is spread upon the shaft of the arrow at various thicknesses, and covers a length of about six inches.

Game wounded by an arrow thus poisoned dies at once, seldom being able to run over 100 yards. The flesh is eaten without any evil effect ensuing, the only precaution taken being to squeeze the sap out of a bark of the *Baobab tree* (*Adansonia Digitata*) into the wound made by the arrow. The sap of *Baobab bark* is said to neutralize any evil effect that might result from the poison being more plentiful in the vicinity of the wound.

Physiological actions.—*Strophanthus* increases the cardiac systole, and in small doses, slows the contractions. The action of the heart is accompanied by a rise in blood pressure, which appears to be directly produced by the drug. It exerts a much more powerful action on the heart than *Digitalis*, and a less powerful action, upon the blood-vessels, by regulating the dose, pharmacological influence may be produced on

the heart, whilst the other muscles remain apparently unaffected. It does not lose its effects by the system becoming habituated to it; on the contrary its action from the first to the last is uniform, while increasing cardiac muscular impulse, it does not at the same time accentuate vascular muscular resistance, but acts upon the heart only (directly on its muscular fibre); in this respect it differs from Digitalis. Also no cumulative action has been observed even after it has been observed even after it has been administered for weeks continuously and it does not produce sickness and gastro-intestinal disturbance like Digitalis. The amount of urine secreted is increased, which is apparently due to increased blood pressure, and not to any direct action on the Kidney.

Therapeutical Actions.—Strophanthus now holds a recognised and valuable place amongst remedies used in the treatment of cardiac complaints, being perhaps only secondary to Digitalis. As compared with Digitalis, Strophanthus is not only more powerful on the heart than Digitalis but is free from other attendant actions and secondary effects of the latter. It is in no respect a cardiac stimulant but a pure heart tonic and a diuretic.

(1.) *Disorder of Circulation.*—In difficulties and embarrassment of circulation depending upon central cause, it seems preferable to act on heart alone, rather than also to increase its difficulties by closing the blood vessels, into which it must empty itself.

(2.) *Heart Affections.*—(a.) Strophanthus is an excellent remedy in cases where we have to deal with *Fatty Degeneration, Dilatation, or Weakness occurring in course of long continued diseases as Typhoid Fever, Phthisis, Pneumonia (quo vide.)*

(b.) D. Fraser also regards Strophanthus as advantageous in all weak states of the heart, whatever the cause of weakness, but he says that in case of *Fatty Degeneration* or *sufficient Compensatory change* it will probably do little good. It is beneficial in *dyspnœa* of cardiac diseases.

(c.) *Angina Pectoris.*—M. Bucquoy (of Paris) has employed Strophanthus in three cases of Angina Pectoris with astonishing effects. He has given it to 40 patients, 20 of whom had Mitral Insufficiency. Three times only did it fail.

(1.) In *Anæmia with weak heart or Anæmic Murmur of the heart*, it strengthens cardiac action, and accelerates the action of Iron.

(3.) *Typhoid Fever, Pneumonia and Phthisis*.—It is an excellent remedy for Dilatation or Weakness occurring in course of long continued diseases as Typhoid, Pneumonia and Phthisis. In these cases much of the depression is due to the accumulation of Carbonic Acid in the blood, which is not thrown off by reason of the depressed condition of the circulation; the shortness of breath, which these patients complain of, may be overcome by giving a cardiac stimulant as Strophanthus as *preferred to Ammonia, Digitalis, Alcohol, Nux Vomica, &c.* Because Strophanthus possesses advantages over all others in producing immediate and continued effect on the cardiac muscle. Five drops of Tr- Stroph. given in a little water and the dose repeated in urgent cases in the course of one or two hours.

Strophanthus is a tonic and strengthener of heart muscle in cases of *Typhoid Fever* with enfeebled *first sound* and tendency to cardiac failure. Under its use *pyrexia* disappears.

(4.) *Renal and Dropsical Affections*.—Strophanthus encourages the action of the Kidneys. In disturbance of the circulation when blood tension is unduly low, it is capable of producing a diuretic action. *Its diuretic action is increased by combining it with Ether Sulphuric.* From the power of drug in producing copious diuresis it has recently been found very effective in cases of *Renal Colic and local Dropsical Swellings from debility, and weak states of the heart.* Not only will it often dissipate the uræmic symptoms in *Bright's disease*, but in *contracted Kidney with dropsy* it has quickly induced sleep and caused free diuresis. In *Bright's disease* with concomitant symptoms, Strophanthus is, in most cases, invaluable, and some have obtained good results in the anasarca of *Hepatic Cirrhosis and Chronic Peritonitis*. Its beneficent effects in the *dyspnœa of Renal diseases* have been most marked (Dr. Fraser).

(5.) In purely bronchial and nervous asthma it is not so beneficial as it is in *dyspnœa of cardiac and nervous diseases*.

(6.) Strophanthus has a local anæsthetic action. (Here I may mention that many of the drugs which act on the heart possess a local

anæsthetic action as you will find on referring to the chapter on Cardiac Diseases, Part II.) *Vide* Strophanthin which follows.

Preparations and Doses.—Tincture (1 to 20 Rect. Sp.), 2 to 10 mins.

STROPHANTHIN.

Syn.—*Strophanthallin, Strophanin.*

Strophanthin is a white crystalline glucoside, the active principle of *Strophanthus* seeds. When applied to the conjunctiva it produces in 25 to 30 minutes complete anæsthesia lasting from 2 to 12 hours, and causing a slight feeling of burning. Dr. Rothziegel* who has recently experimented with Strophanthin sums up his results as follows:—

1. The dyspnœa, palpitation, and other symptoms occurring in organic disease of the heart were much relieved whilst the patient was taking this drug. As a rule, the dyspnœa disappeared before the palpitation. In cases of so-called "nervous palpitation," strophanthin produced some relief, but this was only temporary.
2. The amount of urine secreted was increased, but not until the strophanthin had been taken for some considerable period, and, moreover, the quantity passed was not so large as when digitalis or the tincture of *strophanthus* had been given. The increase in quantity of urine lasted for several days after the strophanthin had been discontinued, and was apparently due to increased blood-pressure, and not to any direct action on the kidney.
3. Subcutaneous injections (1/120th gr. in watery solution), in cases where the heart's action was very weak, produced a rapid and lasting effect on the pulse, and no unpleasant local effects were caused by the puncture.
4. With the tincture of *strophanthus*, strophanthin compared unfavourably. The tincture acted more certainly, quickly, and energetically than the alkaloid; this was especially noticed in its diuretic action. Cases, however, occasionally occurred in which not only the tincture of *strophanthus* and digitalis, but also the other cardiac tonics, could not be taken, but in which strophanthin was well borne, and the latter was found to be a good substitute for the tincture in such cases. Other instances were also noted in which all the cardiac tonics were ineffectual, whilst the administration of strophanthin was followed by satisfactory results.

* *Centralblatt für Klinische Medicin*, 1890, No. 27.

5. The indications for the use of strophanin in valvular disease, with or without affection of the myocardium, are the same as in the case of digitalis—that is to say, when there are indications of heart failure. In acute and chronic Bright's disease strophanin produces diuresis, especially if the heart's action is at all weak. In the above experiments the doses given were $1\frac{1}{2}$ to 5 milligrammes per diem. In English measure this would amount to about $\frac{1}{300}$ to $\frac{1}{200}$ gr. for a dose.

Mode of Administration and Doses.—Usual Hypodermic Dose, $\frac{1}{120}$ to $\frac{1}{60}$ gr. ; minimum, $\frac{1}{200}$ gr ; maximum $\frac{1}{20}$ gr.

$\frac{1}{300}$ to $\frac{1}{200}$ gr. by the mouth ; it is best given in capsules, and repeated every 2 hours.

STYLOSANTHES ELATIOR, (Swartz.)

Syn.—Pencil Flower, After-birth Weed.

Part employed.—The Herb. *N. O.*—Leguminosæ.

Habitat.—Middle Southern States.

Therapeutical properties.—It is an uterine sedative, tonic and a preparatory parturient. It relieves the irritability of the uterus, and consequent abnormal pains, liable to occur during the latter months of gestation. It gives tone to the uterine fibre, thus increasing expulsive effort, and facilitating parturition. It also prevents tendency to habitual abortion.

Preparations and Doses.—Pd. Herb, 20 to 60 grs.

Fl. Ext., 10 to 20 mins. thrice a day
prior to confinement.

SULPHONAL—(Bayer.)



Syn.—Dimethyl-diethyl-sulphon- methane.

Characters—Sulphonal, produced by the oxidation of a mixture of ethyl-mercaptan and acetone, occurs in minute white crystals, devoid of taste and smell, soluble in 450 parts of cold and 20 of hot water, and freely soluble in ether and alcohol.

Physiological actions.—Sulphonal acts by giving rest to the cells of the cerebral cortex—only as an hypnotic to the sensory nerves,

without affecting the other tissues, causing a sound and tranquil sleep which sets in half an hour, more seldom after 1—2 hours, and lasts 6 to 8 hours without interruption; and sometimes also extends for some hours in the forenoon, the action is, therefore, gradual. On waking there is no headache or nausea, the patients feeling refreshed and natural. Experiments made on sleeping human beings also prove that an unfavourable effect on the heart and vascular system is not produced even by full doses of Sulphonal—a fact, in support of which, there is also clinical evidence. It does not affect the respiration, digestion, temperature and the secretion from the kidney as far as albumen is concerned.

Therapeutical actions.—Sulphonal possesses the properties, of an ideal sedative and calmative, and a pure harmless hypnotic, the action of which is unaccompanied by any objectionable secondary effects. It is neither anæsthetic nor depressing in character, and the sleep it produces is perfect. It is recommended as a genuine, effective soporific for employment in therapeutics, i. e., it is a compound which belongs *not* so much to the class of *narcotic* medicines which force sleep, but which support the normal periodical need of sleep, and develope this when it is wanting.

Of the five hypnotics—Sulphonal, Amylene Hydrate, Paraldehyde, Urethane, and Methylal, Dr. Leech places Sulphonal *first* in the order of potency. Although it is not so certain as Chloral, yet for the most part equals Chloral in its action; and is more certain than Amylene Hydrate. It is said to be effectual in those cases where Bromides, Chloral, Paraldehyde, Hypnone and Urethane have failed, as will be found from the clinical description of the drug. The result of 300 observations made by Prof. Cramer and Dr. Rabbas is that after the administration of 1 to 3 grams (16 to 48 grains) of Sulphonal to patients suffering from want of sleep, these, almost without exception, and within $\frac{1}{2}$ to 2 hours fall into a quiet and steady sleep, which lasts for 5 to 8 hours and from which the patient awakens refreshed, and without feeling any disagreeable consequences. Being quite insoluble requires about three hours to become thoroughly dissolved in the stomach, and should be given about two hours before

bed time. As it is not affected by the digestive secretions it may be given shortly after the evening meal.

Advantages.—(1.) Sulphonal is an hypnotic which even in moderate doses (30—45 grs,) has a *better and more certain action than Amylene Hydrate and Paraldehyde* have in larger doses; it excels both medicines in regard to *taste and odour*. (2) Chloral Hydrate certainly brings about sleep more rapidly but this does not last as long as after the administration of Sulphonal. (3) Sulphonal for the most part equals Chloral in its action and it has the advantage over Chloral in being *free from danger even in cases of heart affections*, and by long use it is not necessary to increase the dose, the action of the drug being always constant. It has *no intoxicating effect*, and in fact, produces *no foregoing excitement* and with *less liability to danger in increasing the dose*. (4) Sulphonal still *developes its action when administered in the middle of the night*. It is known that *most hypnotics fail in their action when taken late* after the patient has retired to bed and his nervous system has got into a strongly excited condition through trying in vain to sleep. (5) The balance of evidence shows that *habituation does not occur*, but rather some cumulative action, and *no cases of craving* have been noticed.

Disadvantages.—(1) Sulphonal is *slower* in producing its effects than any of the other hypnotics, a half, three-quarter, two or three hours sometimes elapsing before sleep is induced. (2) *Prolonged deferred action* is more marked after sulphonal than after any of the others, its calmative action appearing to *extend over one day*, and exerting a *modified influence the second night* after its administration. (3) It is difficult to determine its hypnotic dose in each individual case and the dose may vary at different times in the same case.

Having thus enumerated its chief hypnotic characters, its advantages and disadvantages as compared with other hypnotics, I give a brief description of its various clinical uses and its exceptional untoward effects sometimes produced as follows :—

From a very extensive use of Sulphonal in private and hospital practice, it has been found useful as *an hypnotic and calmative in cases of simple Nervous Insomnia, Insomnia due to travelling, Mental and Nervous Diseases, Morphia Habit, in Bright's disease, in Fevers, &c.*

(1.) *Nervous Insomnia*.—In the almost terribly large number of cases of so-called nervous sleeplessness we are able to bring about a beneficial and refreshing sleep lasting the whole night and this with 15 grs., and with 30 grs. when we wish to be perfectly sure of the result (especially in the case of patients with powerful constitution.) Sleep mostly sets in in half to one hour after taking the remedy and on waking, a feeling of comfort is noticeable, and the desire for more sleep. (Drs. Kast and Rabbas.)

(2.) Sulphonal administered in moderate doses of 15 grs. to people who cannot sleep whilst *travelling* by rail at night gives in most cases perfectly satisfactory results ; we ourselves have employed it first for the same purpose (*Ibid*).

(3.) *Insomnia of Mental Diseases*.—(a.) *Mania*. Sulphonal being tasteless and odourless is certainly fully appreciated in many cases in Psychiatric practice. It, therefore, presents a favourable advantage over other hypnotics—Amylene Hydrate and Paraldehyde—in the cases of lunatics and weak-minded patients, because it can be easily administered dissolved in hot fluids, as soup, tea, milk, &c., without being detected. It has recently been given with benefit in doses of 30 grs. in cases of Acute Maniacal affections ; and if the sleep be too short a dose should be repeated once during the night. That in chronic cases associated with recurrent attacks of excitement, Sulphonal is a most valuable agent, producing sleep not only on one occasion, but also on two or three nights following its administration. In this form of excitement it also considerably allays excitement during the day, although it may have given once only as a soporific at bedtime. The cases in which it was used were : (1). noisy excitement with sleepless nights ; (2) recurrent mania with restless nights ; (3) recurrent mania with depression between the attacks. In chronic mania with continuous unbroken excitement, the effects of sulphonal are uncertain. From 220 experiments made at Prof. Cramer's Lunatic Asylum at Marburg, it was confirmed that Sulphonal in doses of 30—45 grs. had generally a good effect even on excited patients and that even in such moderate doses it had a better and more certain effect than Amylene Hydrate and Paraldehyde had in larger doses. These results of Drs. Kast and Rabbas have been further confirmed by Prof.

Dr. Emminghaus, who affirmed that in 374 cases=92 per cent—among them highly excited Mania—Sulphonal had a positive effect, that is, it brought on a sleep of 5 and more hours duration.

(b) *Melancholia*.—Trials were made at the Marburg and Freiburg clinics, administering the remedy by day in refracta dosi to patients suffering from melancholia accompanied by torturing anguish; it brought on a kind of sleepy exhaustion which forced the fear and restlessness into the background as long as its action lasted. At night the patients, otherwise sleepless obtained from 5 to 8 hours unbroken sleep. The dose amounted to 30 to 60 grs. per day. In a case of hypochondriacal depression in which there was a pronounced objection to Hyoscín, 30 grs. of Sulphonal had a better effect than 90 grs. of Paraldehyde. The patient awoke refreshed and calmed and has since willingly taken Sulphonal (Dr. J. Salgo).

(c) *Dementia Paralytica*:—M. S. suffering from Dementia Paralytica accompanied by a state of fear and sleeplessness, after taking 45 grs. of Sulphonal slept for 9 hrs. without waking, and on the following night for $5\frac{3}{4}$ hrs; afterwards quiet as if half asleep. After 30 grs. Chloral, patient did not sleep at all; after 45 grs. Chloral, obtained 4 hours sleep. Paraldehyde was mostly without action and Amylene Hydrate had somewhat more sleep. (C. Oestreicher). It was used with success in a case of Incipient general paralysis.

(d) *Dementia Senilis*:—V. K. has hitherto taken large doses of Bromide for sleeplessness and with but little effect; after 24—30 grs. sulphonal he slept the whole night. (Ibid).

Insomnia of Nervous Diseases:—(a) *Delirium Tremens*:—In these cases 20 grs. should be administered every 2 hrs. until 60 or 80 grs. have been taken, but it should be remembered that every case of delirium tremens is also a case of starvation, and to produce sleep the patient must be fed (Wm. H. Thomson, M.D., L.L.D.)

(b.) In a case of Melancholy depression, accompanied by intense delirium (with self-accusation) 15 grs. brought about sleep (Dr. J. Salgo).

(c.) In cases of Delirium its internal use has been advantageously combined with an hypodermic injection of 1/75 gr. of Hydrobromate of Hyoscine.

(d.) *Epilepsy and Hysteria*.—In cases of Hysterical delirium and epileptiform convulsions the paroxysms are either prevented or greatly lessened. Fifteen grains of sulphonal were found to be extremely active in a case of epilepsy accompanied by agrypnia (free from excitement) and in which Paraldehyde had been previously administered with success. (Dr. J. Salgo). Another case slept better after 30 grs. of sulphonal than after 30 grs. Chloral.

(e.) *Meningitis*.—In the case of a boy of 5 suffering from *meningitis tuberculosa* sulphonal produced an excellent effect. The boy had already had sleepless nights and exhibited signs of great restlessness during the day-time, yet 8 grs. of sulphonal sufficed to completely calm the patient and on repeating the dose on the following day the same satisfactory result was obtained (Dr. Joseph Franz.)

Neuralgias.—If on the whole Sulphonal cannot be regarded as an established remedy for appeasing pain still the following observations are worthy of consideration : the first is that of a young man suffering from violent supraorbital neuralgias the terrible pain of which prevented him from sleeping. A single dose of 15 grs. immediately effected a diminution of the pain and the patient obtained a good night's rest. In the case of another patient, tooth-ache was relieved. (Ibid).

Morphinism.—In *Morphia Habit* Sulphonal has been found a most valuable remedy to control insomnia and break the habit. Dr. J. Franz has therefore made some experiments both during the time of breaking off the taking of morphia and also during the first weeks of abstinence when as is known agrypnia is wont to be very persistent for some length of time. Here sulphonal although did not produce in some cases sleep on the first night of abstinence, but did so on the second and subsequent nights and further sulphonal succeeded after failure of Chloral, Paraldehyde and Amylene Hydrate (Ibid).

Chloroform Narcosis.—The fact that even patients who are suffering from the after effects of chloroform will bear doses of 15 to 30 grs.

of sulphonal is of considerable importance in judging of the harmless action of sulphonal even on an already affected nervous system. The headache, heaviness and other symptoms resulting as the effect of the narcotic were diminished after taking sulphonal and after a time completely disappeared. There was no any ill after-effect or even of the ill-effects of the narcotics being intensified.

Insomnia of Fevers.—It was tried in 26 cases of Typhus Fever suffering from sleeplessness, without any attendant disadvantages. With very few exceptions, easy natural sleep was with certainty induced. The largest dose given was 90 grs. in 3 doses divided over a period of 6 hrs. Several boys under six years of age and suffering from fever also fell asleep after taking sulphonal and obtained a sound and good sleep which lasted the whole night.

Insomnia in Heart Diseases.—Dr. Oestereicher affirms that in heart disease it can be safely recommended ; it has been found useful in sleeplessness from *Mitral Insufficiency*. Dr. Schmidt says : “In heart disease the drug has sometimes no effect ; while in other cases especially those where the *compensation is insufficient, the action of the heart is interfered with*, and great care is to be used in giving sulphonal to such patients.

Insomnia due to other causes.—It is useful in insomnia due to *Syphilitic pains, Malarial Poisoning, Anæmia, Accidents, and in Bright's Disease*.

Hyperhidrosis.—Very recently sulphonal is found most beneficial in night-sweats, acting similar to Atropine; $7\frac{1}{2}$ gr. doses will check night sweats ; and its effects were somewhat permanent, as after stopping the drug the sweating was less severe. Dr. Schmidt gave sulphonal in doses of $7\frac{1}{2}$ grs. to 6 phthisical patients for the relief of nocturnal sweats, The result was generally favourable.

Untoward Effects.—Sulphonal is sometimes liable to produce unpleasant secondary effects such as, nausea, dizziness, headache, languor and staggering gait. These symptoms may appear either after large or after quite small doses ; and they are not observed in all cases, but in few exceptional cases, and therefore its use should not be abandoned, without being tried. It has never caused death even after

huge doses, although in special cases it produced a semi-comatose condition.

Failure.—It often fails to exert any hypnotic action, either in any dose whatever. Prof. Cramer and Dr. Rabbas have naturally observed a few times that sulphonal fails in its action; there is no such thing as an absolutely certain hypnotic. But still on the whole as the result of all those already described observations I can but recommend sulphonal as a Hypnotic.

Contraindications.—It is rather prohibited in Mental cases when there is diarrhoea and vomiting, accompanied by dizziness and a staggering gait, with congestive symptoms.

Mode of Administration and Doses.—The remedy, in fine powder, should be mixed with at least a $\frac{1}{4}$ pint of warm fluid, as hot soup, beef tea or warm milk, and should be taken two hours before bedtime (with the last meal and between 7 and 8 o'clock).

20 to 30 grs. as an average dose for adults; maximum dose, 50 to 60 grs. without discomfort or after-effects. Women are said to require smaller doses (15 grs.) than men. For children the doses are proportionate to the age, viz., 2 to 8 grs.

SULPHUR.

Recent and Practical Therapeutical Uses.—(1). *Diphtheria*: Recently the cases of diphtheria have been successfully treated by the local application of flowers of sulphur. The diphtheritic membrane should not be removed, but having been first irrigated with a disinfectant in solution, it should be treated to a coating of washed sulphur, best applied with the aid of a camel hair brush. Three to five applications in the 24 hours are quite sufficient and patients old enough to describe their sensations declare that they obtain considerable relief from the treatment which is efficient probably by the setting free of sulphurous acid as a result of combination with oxygen under conditions of warmth and moisture present. In making applications it is necessary to observe the hours immediately after meals, except in the case of the nasal passages, in order that the medicament may remain as long as possible in the meshes of the membrane. Prof. A. Stanley has successfully employed

the following methods :—(a.) By means of a tube blow a portion, say, half a drachm of sulphur over as much as can be covered of the diphtheritic membrane. (b.) Gargle with a solution of the sublimed sulphur, or, if preferred, with sulphurous acid mixture. (c.) Inhalation of the fumes of burning sulphur. The first means should be used twice a day, night and morning, and that the two latter ones every two hours.

(2.) *Whooping Cough*.—Of all the specifics, the most effective is the fumes of burning sulphur in the rooms where the children live. First remove the children to another room, then in the room, where the children usually sleep at night, hang their clothes, toys, &c., shut the windows, and then burn sulphur (one ounce to every cubic metre of space) for at least five hours. Then open the windows and let the fumes go out. The children may sleep in this room at night dressed in their apparel which was exposed to the fumes of burning sulphur. This burning may be done from time to time during the day. Also give internally first 15 grs. of sublimed sulphur and then from 1 to 3 grs. every 2 to 4 hours repeatedly to keep the system under sulphur. This mode of treatment by sulphur is said to have a magical effect in cutting short the paroxysms of whooping cough.

(3.) *Small-pox*.—If given in repeated small doses to patients with small-pox, no pitting or disfigurement occurs.

(4.) *Scarlatina*.—High fever and other symptoms are rapidly relieved in these cases just as in diphtheria.

(5.) *Malarial*.—Labourers in sulphur works are free from remittent fever. So sulphur may act beneficially in malarial fevers.

(6.) *Diarrhœa*.—Sulphur in minute doses arrests various forms of diarrhœa just as minute doses of mercury or hydrarg. c. creta arrest diarrhœa. (In large doses it is purgative).

(7.) *Cholera and Tetanus*.—Owing to, the germicidal properties of sulphur, and also the germ theory of cholera and tetanus, it has lately been recommended to be employed in these diseases, but as yet there are no sufficient data to warrant its employment as such.

(8.) *Hemorrhoids*.—Sulphur in the form of precipitated sulphur and combined with small doses of cream of tartar is very useful internally in Hemorrhoidal tumours.

(9.) In small doses sulphur is useful in chronic affections of the pulmonary mucous membranes and especially in Chronic Bronchitis of aged people.

(10.) Skin affections, Gout, Chronic Rheumatoid Arthritis and Muscular Rheumatism are amenable to continuous uses of sulphur in small doses.

(11.) Lastly, sulphur is useful in Cystitis, Hepatic Sluggishness, Hemorrhoidal bleeding, and habitual constipation where its continued use is quite effectual in obviating the constipation without producing unpleasant action often pertaining to ordinary aperient medicines.

Preparations and Doses.—Sulphur Subl. 30 to 60 grs. or more.

Sulph. Precip. 20 to 40 grs.

Compound Sulphur Lozenges (Sir Alfred Garrod), each containing 5 grs. Sulph. Precip. and 1 gr. Pot. Tart. Acida: Dose, 1 to 4 or more.

SULPHO-CALCINE.

Composition.—Pure Oxide of Calcium; Flores Sulphuris Loti thoroughly washed and purified; Benzo Boracic Acid, chemically pure; Oleum Eucalyptus Globulus; Oleum Gaultheria; Extractum Pancreaticus, entirely free from fat.

Therapeutical properties.—It has antiseptic, astringent, resolvent, disinfectant and powerfully solvent properties. It contains, in intimate and chemical combination, all the ingredients that have proven to be of material benefit through their valuable germicidal and resolvent properties, in dissolving the membrane in Diphtheria. It is entirely non-poisonous and will not injure the most delicate tissues of the youngest child. Its action is rapid, in the majority of cases cleaning the tonsils and fauces within 24 hours, and in only one case of the hundred did it take 48 hours to accomplish its entire removal. In over one-hundred cases the practice and under the personal supervision of the most eminent and successful practi-

tioners, in which it was tested, the membrane was dissolved in every instance, save one. This failure was simply due to the inability of the little patient's parents to enforce the use of it. When used in connection with the Perchloride of Mercury treatment internally after the method of Prof. A. J. Skene, M.D., will result in the recovery of 99 per cent of the cases :—

R Hydr. Perchl. gr. 1, Vin. Pepsinæ, Aquæ â â ozs. 2. M.

Sig. A teaspoonful every one, two, three or four hours, according to the age and severity of the case.

Modes of Application.—Sulpho-Calcine is used either in the form of a gargle or spray. If as a gargle, it must be used pure or which is just as well, diluted one-half with water. But if used as a spray, it must be [in the concentrated form. This also applies when used with either the swab or the camel's-hair brush.

TEREBENE (*Pure.*)

Characters.—Pure Terebene, obtained by the action of Sulphuric Acid on Oil of Turpentine, is a clear, colourless, volatile liquid with an agreeable terebinthinate odour or odour of fresh Caron Pine, and pleasant taste. Pure Terebene produces scarcely any action at all upon polarised light, and is not sticky to the touch. Care must be taken not to confound this agent with the patent dark coloured disinfectant sold as *Terebene*.

Physiological actions.—Terebene appears to stimulate the vasomotor centres, increasing the blood pressure and diminishing secretion. Dr. Murrell says : "Terebene exerts a grateful topical action, in spray, on that powerful producer of cough, the *Superior Laryngeal Nerve*, distributed to the *Glosso-Epiglotidian folds* and the whole of the interior of the *Larynx*, and possibly on the *Glossopharyngeal* branches distributed to the *Pharynx*, and the nasal mucous surfaces."

Therapeutical actions.—Pure Terebene is a powerful expectorant and is highly serviceable in *Winter Cough*, *Chronic Bronchitis*, *Emphysema*, *Phthisis*, and *Bronchorrhœa*, maladies both obstinate and distressing. It appears to have a marked effect in those

cases where *flatulence* is an aggravation and complication of *Bronchitis*, &c. It is so effective that its remedial value is apparent in a day or two. It may be used in these affections internally or as an atomizer either alone or in combination with Oil of Santal Wood, Cubebs, &c. It checks the formation of *flatus* so quickly, and is so efficacious in expelling any that may remain in the stomach and intestines, that I constantly employ it in cases of *dyspepsia* when flatulence is a prominent symptom. Patients like it and often continue it taking it for months or years. It acts as an *antiseptic* probably much in the same way as Glycerine, Oil of Cajeput and Oil of Eucalyptus. I am surprised that it has not largely come into use in the treatment of flatulence (Dr. Murrell.) It is also recommended for dysentery.

(1.) *Chronic Bronchitis, Winter Cough and Emphysema.*—It has been demonstrated that pure terebene is a powerful expectorant; and, if inhaled the first thing in the morning, when the mucous membranes are covered with thick viscid secretion, will give very great relief. Dr. Murrell, after 114 satisfactory trials of it in *Winter Cough*, highly recommends it in this affection. He says: "It is of such value in *Winter Cough*, that I rarely experience the necessity of resorting to other agents." Dr. J. Hutchinson says: "In cases where the trouble has not been of long standing, and the symptoms are *slight cough, more especially at night; expectoration moderate in quantity and easily voided; no feeling of rawness in the chest, and little or no disturbance of the general health*, I consider that Pure Terebene is almost to be ranked as a specific, so quickly is a cure effected."

In cases where there is Emphysema, and the ailment has been present for some time, it may for some years, with the following symptoms: cough very troublesome, and sometimes very violent, expectoration tough and adhesive, or it may be easy and copious; great shortness of breath and rawness of chest, sleep broken and general health much disturbed; the beneficial effects of the medicine do not manifest themselves for some little time, and not infrequently the dose has to be repeated to ten, or even fifteen drops. If, however, the drug be persevered with faithfully and regularly,

the cases are few in which I have to record a failure. Altogether, I consider Pure Terebene one of the most valuable remedies at our command in the above class of cases (Ibid.)

(2.) *Phthisis*.—The vapour of Terebene is a good sedative and antiseptic inhalation in the cough of Phthisis, when there are no exacerbations of fever. As a dry inhalation, employed continuously for months in Phthisis, it proved curative (Dr. Murrell).

Mode of Administration and Dose.—5 to 20 drops, on a lump of sugar or in mucilage, internally. The drug is preferably used in inhalations with the Burroughs' Ammonium Chloride Inhaler, a teaspoonful being added to the contents of the water bottle.

TEREBINTHINA.

TURPENTINE.

New Therapeutical properties.—Oil of Turpentine is used as an external application for Psoriasis for a long period and in properly selected cases have met with marked success, and finding, that like Chrysarobin. when rubbed into one side of the body the other side also improved, it was tried internally as follows:—

CASE 1.—Job. G. æt. 69 had psoriasis of six years duration. He was prescribed mins. 10 of Ol. Terebinth. in 1 oz. of Mucil. Acaciæ. His whole of the body and limbs were covered with white scales of psoriasis, except head, face, back of the hands, &c. The palms, soles, nails of fingers and toes were severely affected. He was given 15 mins. of Ol. Terebinth. ter. die; on the 24th, mins. 20 and on 26th mins. 30 given. On the 3rd March as the improvement had only slightly progressed the dose of turpentine was increased to 75 mins. but it was to be stopped on account of urine becoming cloudy with blood and albumen. It was now resolved to use turpentine externally but the patient went out. The experience of the treatment of 30 other cases of Psoriasis by the same means proves that the result in the above case was not a mere coincidence; in most of them no external treatment was used.

TEREBINTHINIA CHIO.

CHIAN TURPENTINE.

Therapeutical properties.—The Chian Turpentine appears to act upon the periphery of the growth, viz., the *Cancer of the female generative organs*, with great vigour, causing the speedy disappearance of the cancerous infiltration and thereby arresting the further developement of the tumour. It destroys the vitality of the mass of cancer but more slowly. It appears to dissolve all cancer cells, leaving the vessels to become subsequently atrophied and the former structures to gradually gain a comparatively normal condition. It is a most efficient anodyne causing an entirely cessation of pain in a few days and far more effectually than any sedative that I have ever given. Chian Turpentine acts as a direct poison upon the growth probably causing its ultimate death. In advanced cancer, process of reparation is slow. In the early stages of cancer it may be affirmed that an undoubted cure may take place speedily (Dr. Clay). For cases of *Carcinoma and Sarcoma*, Dr. Clay prescribes pills, each composed of Terebinth. Chio. grs. 3 and Sulph. Subl. grs. 2.

Although Chian Turpentine is so highly recommended by Prof. Clay, yet it *cannot be said to be a specific for Cancer*, inasmuch as no beneficial results have followed its employment in the hands of others.

Dose.—3 to 4 grs.

TERPENE HYDRATE.

Syn.—Turpene, Terpin Hydrate.

Characters.—It is an hydrate obtained from Oil of Turpentine, and occurs in colourless prismatic crystals, slightly soluble in cold water (1 to 200), more so in water that has been first boiled and then cooled down to a lukewarm state, readily soluble in alcohol (1 to 7), and in oils; tasteless and odourless.

Therapeutical properties.—It has similar action to Turpentine but acts not only in smaller doses but is also better borne by the stomach than the latter. Being tasteless and odourless the crystals

cause no repugnance on the part of patient. Fluidity and ease of expectoration are the rule after turpene but not after turpentine. It is the best expectorant in existence, producing its effects with great promptness in doses of 3 to 9 grs. It was successful in 200 cases. In two chronic cases which had been very rebellious and resisted every other medication, it brought relief promptly in doses of 30 grs. It is a peculiarity of the drug that given in a large dose its action is just reverse from its effects when given in small doses (about 3—16 grs.), *i.e.*, it suppresses expectoration when given in large doses and is therefore useful in cases of *Bronchorrhœa*. In cases of *Bronchitis* it is best given in a watery solution and with syrup.

Next to its action in *Respiratory passages*, its *diuretic* effects claim our attention. It produces mischief in Bright's disease, and produces hæmaturia and hæmaglobinuria and so *useless in Renal diseases*.

In *Hystero-Epilepsy*, it proved successful in a limited number of cases. In *Nervous affections* it will often be required to combine it with an astringent, in order to avoid diarrhœa. Dr. Ducroux recommends its use in *Neuralgia* in doses of 3 to 4 grs. *ter die* between meals.

Dose.—3 to 15 grs. or more.

TERPINOL.

A colourless oily liquid with an aromatic odour and obtained by the action of Sulphuric Acid on Terpin.

Therapeutics.—It is employed in same cases in which Terpin is used.

Mode of Administration and Dose.—It is best given in gelatine capsules in doses of about 2 grs. diluted with Olive Oil.

THALLIN.

Syn.—*Tetra-hydro-paramethyl-oxychinoline*.

Characters.—Small white crystals, soluble in water and less so in alcohol. Its salts are Sulphate, Tartrate, and Tannate. They are

soluble in water and strike an emerald-green colour with Perchloride of Iron and other oxidizing agents, are of an acid reaction and of an intensely bitter and aromatic taste.

Physiological actions.—Thalline, like Kairine, lowers the temperature not by acting on the thermic centres, but by diminishing the respiratory powers of the blood and diminishing hæmoglobin. "Thalline, says M. Albert Robin, diminishes tissue waste especially of albuminous substances and hence retards the elimination of uric acid, at the same time diminishing its production; while it increases the dissimilation of organic substances which contain sulphur and phosphorus. Hence thallin is a poison to all organs which contain sulphur and phosphorus. It is therefore a poison to the nervous system and should be rejected from therapeutics."

Therapeutical actions.—Thalline is the most powerful of antithermics, and the most certain and effective, succeeding even when Kairine and Antipyrine have failed. It is recommended in all cases of persistently high fever where the salts of Quinine or Salicylic Acid prove unsuccessful or are contraindicated. But since the introduction of Antifebrin, Antipyrin and Phenacetin it has fallen into disuse. It lowers temperature in doses of 2 to 4 grs. to be repeated two or three times at intervals of an hour.

It was used in 86 cases of febrile affections, amongst which were Intermittent Fever, Typhoid, Rheumatism, Measles, Erysipelas, Puerperal Fever, Pneumonia and Tuberculosis. In Malarial Fever, Jaksch succeeded in aborting not only the fever, but also other symptoms of paroxysms by the administration of drug 2 or 3 hours previous to the anticipated attack. Even in the height of paroxysm it was successful. But even in spite of this, thalline was incapable of curing a single case of Malaria, as the discontinuation of drug was followed by return of paroxysms, which finally yielded to treatment with Quinine.

(2.) *Gonorrhœa.*—For Gonorrhœa, injections of 4 to 8 grs. in 1 oz. of water, as well as bongies of Thallin 2½ and 5 per cent. are recommended. It is also useful internally in doses of ½ to ¾ gr. for Acute and Chronic Gonorrhœa.

Dose.—2 to 4 grs. to be repeated 2 or 3 times at intervals of one hour, according to the temperature and constitution of the patient. Maximum dose, 8 grs.

N.B.—It is necessary to be very chary in the employment of Thalline and to give it only in small doses if not more than 4 grs.

THAPSIA GARGANICA, (*Linne.*)

Syn.—*Bou-néfa*; *Thapsie*, *Faux fenouil*, (*Fr.*)

Part employed.—*The Root.* *N. O.*—*Umbelliferae.*

Habitat.—*Northern Africa, Southern Europe.*

Therapeutical properties.—This Arabian drug is chiefly employed by the Arabs as a counter-irritant in the localized pains of Rheumatism, Gout, Bruises and Bronchitis. It acts locally much like Croton Oil, and its action is limited to the spot of application. For this purpose a plaster may be prepared from its resin. It has come recently into practice in France. Internally it acts as a tonic in small doses, but in large doses it is an irritant cathartic.

Preparations and Doses.—*Fl. Ext.* 10 to 30 mins.

THIOL.

Syn.—*German Ichthyol.*

Characters.—Thiol, an artificial representative of the natural Ichthyol, and prepared by heating Sulphur with some of the intermediate paraffins resulting from the destructive distillation of peat, occurs as a dark brown resinous mass, free from unpleasant odour of the natural Ichthyol; soluble in alcohol and ether, and also in water from which it is precipitated by acids. From it, a sodium salt may be prepared resembling the natural Ichthyol and containing 12.1 per cent of Sulphur.

Therapeutical properties.—According to Dr. Reeps, the *Sodio* and *Ammonio Thiols* are fully equal in remedial power, for chronic Rheumatism and Lumbago, &c., to the corresponding *Ichthyol* compound, if, indeed, they are not even superior thereto.

Prof. Schwimmer, of Buda Pesth, has used thiol in a large number of skin diseases with remarkable success. In Herpes Zoster,

Acne Simplex and Rosacea, in moist Eczema and in Burns, he paints the affected part with a solution in distilled water, of the strength of 1 in 4, twice a day, not washing the application off for two or three days. In some long-standing cases an ointment (1 in 3) was employed, and in some the dry powder itself.

THIOCAMPH.

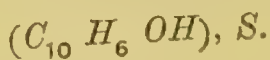
THIOCAMPH.

Characters.—Thiocamph, obtained by bringing Camphor in contact with Sulphurous Acid Gas in excess until such time as the former is rendered fluid and the latter is no longer absorbed, is a liquid containing over sixty times its volume of Sulphurous Acid Gas; it is fairly stable liquid while tightly corked, but gradually evolves SO_2 when exposed in a warm room or to the air. It is soluble in alcohol.

History.—The fact that Camphor and various other essential oils would absorb a considerable amount of Sulphurous Acid—the stearoptenes liquifying under its influence at ordinary temperatures—has long been known to us. The property of Camphor to absorb Sulphurous Acid with the formation of a new chemical compound, was pointed out some time ago by H. M. Schultze. It is well known that Sulphurous Acid is an efficient disinfectant, but owing to its gaseous condition its employment has been attended with many objectionable features. To obviate this, this new disinfectant has been recently brought forward.

Therapeutical properties.—Like other solutions and concentrations of Sulphurous Acid, Thiocamph will doubtless be found very useful for disinfecting purposes of various kinds. It may be employed in a pure condition or dissolved in alcohol.

THIONAPHTHOL.



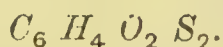
Syn.—Beta-Naphtholsulphide.

Characters.—Thionaphthol, prepared by heating together at a temperature of 338° — 356° F., 250 parts of B-Naphthol and 55 of Sul-

phur and then adding 200 grms. of Oxide of Lead, and then extracting the residue with hot alcohol and filtering, occurs in the form of small crystals.

Therapeutical properties.—This compound is useful for disinfecting and antipyretic purposes and it is believed that its antiseptic powers stand comparatively high.

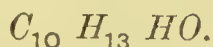
THIORESORCINOL.



Characters.—Thioresorcinol, obtained by treating Resorcine with Sulphur in the presence of an alkaline solution, is a yellow, amorphous or semi-crystalline powder.

Therapeutical properties.—It has lately been used with considerable success for certain cutaneous affections in the form of an ointment with Lanolin and soft Paraffin.

THYMOL.



Syn.—Methyl-propyl-phenol.

Characters.—Thymol, a stearoptene obtained from the oil of *Thymus Vulgaris* and *Ptychotis* (*Carum*) *Ajowan*, occurs in large oblique prismatic crystals having the odour of thyme and a pungent aromatic flavour. Soluble in 800 of water, freely soluble in alcohol, ether, solutions of alkalies, acetic acid, and fats and oils.

Therapeutical properties.—Thymol possesses an aromatic antiseptic, germicidal, and disinfectant properties. A solution of 1 part in 1,000 of water is a very powerful antiseptic and it arrests fermentation in a solution of Sugar and Yeast better than either Carbolic Acid or Salicylic Acid and it also arrests putrefaction of animal matters. It forms an useful deodorant and disinfectant in lying-in hospitals, removing the unpleasant odour of decomposing animal matters. It is an useful remedy internally in Phthisis. It was given in quantities of 45 to 60 grs. per diem to patients suffering from Phthisis, in which cases it reduced the pyrexia to a considerable degree and exerted a remarkably beneficial effect on the diarrhoea. In cases which were not far advanced

the patients increased perceptibly in weight. It was observed that the urine of those patients could be kept in contact with the atmosphere for 10 or 15 days without decomposition. It is recommended in doses of 7 grs. in cases of Cholera, and in doses of $\frac{1}{2}$ to $1\frac{1}{2}$ gr. in Diabetes. Owing to its powerful antiseptic properties it is beneficially employed for surgical dressings. It forms an useful gargle and nasal injection in Ozæna. It is useful in the form of an ointment, 20 grs. to 1 oz. vaseline, in cases of Eczema Ringworm and Psoriasis. Mixed with Kaolin or Starch and Oleate of Zinc it forms an useful dusting powder for Hyperhidrosis, Weeping Eczema, Prickly Heat, &c. It is used as a lotion for Burns and as a gargle to remove the smell of tobacco. One part of Thymol to ten parts of vaseline may be applied to the skin to ward off mosquitoes, &c. In pharyngitis and laryngitis it is of value as a stimulant inhalation.

Dose.— $\frac{1}{2}$ to 2 grs. or more.

TONGA.

It is the name given to a compound fluid extract prepared from the root of *Raphidophora vitiensis* (N. O.—Araceæ) and the bark of *Premna taitensis* (N. O.—Verbenaceæ), both plants indigenous to Fiji Islands.

History.—It had been used for several centuries by the aborigines of the Fiji Islands as a remedy for Neuralgia who guarded the knowledge of its composition with the greatest care, handing it down as an heir-loom from generation to generation. A European, who married the daughter of a chief, learned the secret from his father-in-law, and afterwards gave some of the drugs to Mr. Ryder, a gentleman residing in Fiji, who, in 1879, placed Tonga in the hands of Drs. Ringer and Murrell, of London, England.

Physiological actions.—Tonga produces no toxic symptoms. For Drs. Ringer and Murrell have given two half-ounce doses of the liquid extract at half an hour's interval, and repeated it again in two hours, without producing any effect beyond slight drowsiness. These doses did not affect the pupil, nor increase nor lessen the secretion of the mouth or skin, neither did they affect sensation of the skin, supplied by the fifth nerve. When topically applied to the eye it does not affect the

pupil. While Dr. Bader found that when alcoholic extract was dropped into the eye, it seemed to increase the power of accommodation—to approach the nearest point of distinct vision—without affecting the size of the pupil (though in some cases, taken in large doses internally, it caused great dilatation of both pupils).

Therapeutical actions.—Tonga is decidedly beneficial in the treatment of *severe neuralgic affections, chiefly in those of the cranial nerves, as Hemicrania, Tic-douloureux, Occipital and Trifacial Neuralgias, &c.* It is in fact a specific for Neuralgia. It has succeeded in cases where Quinine, Gelsemium, and Croton Chloral have failed. But recently it has been superseded by the new analgesic remedies, Antipyrine, Phenacetin and Exalgine. It is also found beneficial in painful affections of the eye, &c.

(1.) *Neuralgias.*—(a) Drs. Ringer and Murrell have used this remedy in few cases of neuralgia with prompt cure in every case. They are :—

CASE. 1.—A woman had suffered for fourteen days from severe neuralgia from the infra-orbital and great occipital nerve. She had four severe paroxysms in the day, lasting from half an hour to an hour and a half. Many of her teeth were bad. Three doses of the extract cured her.

CASE 2.—A woman, 40 years old, had suffered for a month with about 6 severe paroxysms daily of pain in the second branch of the fifth nerve. The infusion of the root and bark cured her in 3 days.

CASE 3.—A man, who suffered from severe bilateral orbital neuralgia, was greatly benefited in three days by 1 dr. of the fl. ext. ter die.

All cases of neuralgia (supra-and infra-orbital branches of the fifth nerve), with swelling of the temporal veins during the attack, were benefited under the hands of C. Bader, M. D. Drs. Lusk, Streets and Berger also communicate accounts of several cases successfully treated by them. Of these 3 or 4 cases were sufferers for years. Two or three doses at intervals of 2 to 3 hours cut short the attacks in most cases.

(2.) *Eye Affections.*—In several cases of Asthenopia treated by Dr. C. Bader, it acted beneficially. It was given with great benefit to a man suffering from Rheumatic Iritis. Several patients, with in-

tolerance of light, were rapidly relieved. A most striking effect was obtained upon diminished tension of the eyeball. A lady consulted him for intense pain in the right eyeball, with marked decrease of tension (T—2), intolerance of light, watering, the pupil and cornea being clear, with some conjunctival redness. The intense pain had deprived her of sleep for several nights. Some of the alcoholic extract of tonga was dropped into the eye at 2, 5, 7, and 9 P. M. The following day all intolerance of light had ceased and she passed a good night free from pain. The pain in the eye subsided gradually ; their use was continued for several days.

Preparations and Doses.—Fl. Ext., 30 to 60 mins.

Pd. Ext., 2 to 6 grs.

TRIBROMOPHENOL.

Characters.—Tribromophenol, obtained by the action of Phenic Acid on Bromine, occurs in colourless, soft, white crystals almost insoluble in alcohol, alkaline solutions, &c.

Therapeutical properties.—It is of use for antiseptic purposes. As a dressing for surgical wounds, the powder is sprinkled on cotton wool and placed on the part. If an ointment be used, the strength is 10 grs. to an ounce of Vaseline.

TRICHLOROPHENOL.

Syn.—Trichlorophenic Acid.

Characters.—Trichlorephenol, prepared by the action of Carbo-lic Acid on Chlorinated Lime, occurs in white crystals, which are volatile, with a pungent taste and tarry odour. Insoluble in water, but soluble in alcohol, glycerine, oils, &c. It forms salts with bases which are soluble.

Therapeutical properties.—It is a more powerful disinfectant than Carbo-lic Acid. A 2 per cent solution of Trichlorophenol of Magnesium is recommended in Purulent Conjunctivitis.

TRIFOLIUM PRATENSE, (Linne).*Syn.*—Red Clover.*Part employed*—The Blossoms.*N. O.*—Leguminosæ.*Habitat.*—United States.

Therapeutical properties.—In the form of syrup they are used internally in whooping cough. They are also useful in cases of cancer and scrofulous affections. Externally they are used as a wash for ill-conditioned ulcers and cancer.

Preparations and Doses.—Dried Blossoms, 30 to 60 grs.

Fl. Ext. $\frac{1}{2}$ to 2 fl. drs. Solid Ext. 5 to 25 grs.

Syrup, 1 dr. for adults ; 10 to 30 mins. for children

TRIFOLIUM COMPOUND.

(1.) **Syr. Trifolium Comp.**—Each fluid ounce contains the active constituents of 32 grains Red Clover, 16 grains each of Stillingia, Burdock root, Poke root, Berberis aquifolium, and Cascara amarga, 4 grains Prickly ash bark, with 8 grains of Potassium Iodide.

(2.) **Ext. Trifolium Comp.**—16 fl. ozs. contain Ext. Trifol. pra. $4\frac{1}{2}$ fl. oz., Ext. Stilling. syl., Ext. Burdock, Ext. Poke root, Ext. Cascara amarga, Ext. Berberis aquif. â â fl. oz. 2, dr. 1, Ext. Podophyl. fl. drs. 2, Tr. Prickly ash fl. drs. 5, Pot. Iodidi dr. 1.

Therapeutical properties—It is the combination of the most powerful vegetable alteratives known, and may be relied upon to effect most favourable results—without alteration or addition of other agents—in all routine cases of syphilis, and in all blood and skin diseases. After many years of experience in the treatment of venereal diseases, D. E. F. Rush has found the above formulæ superior in efficacy to the combination of alteratives that has acquired some notoriety under the name of Bamboo Brier Compound or Alterative Comp. (McDade's). In most cases of secondary and tertiary syphilis, its curative and restorative action is prompt and unequivocal.

Doses.—Syrup, 1 to 2 fl. drs. thrice a day in water.

Extract, dr. 1, gradually increasing to 2 or 3 drs. in water thrice a day.

TRUMPET PLANT.

SARRACENIA FLAVA, (Linne).

Syn.—*Fly-catcher*, *Huntsman's Cup*.

Part employed.—*The Rhizome*.

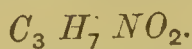
N. O.—*Sarracenaceæ*.

Habitat.—*Southern United States*.

Therapeutical properties.—It has astringent properties, being of decided value in the treatment of diarrhœa. It is also indicated in dyspepsia, migraine, gastralgia and flatulence. Some of the cases of diarrhœa in which it was given were of long standing and very obstinate, others recent but all were benefited by the remedy; and in cases of uncomplicated diarrhœa it has effected a speedy and permanent cure.

Preparation and Dose.—Tr. (1 to 4 Pf. Sp.), 15 to 60 mins.

URETHANE.



Syn.—*Ethylurethane*, *Carbamate of Ethyl*.

Characters.—Transparent, colourless flat, prismatic crystals, odourless and something like saltpetre in taste and freely soluble in water, spirit, and chloroform.

Physiological actions.—Urethane diminishes the excitability of the spinal cord. It acts rather as a stimulant on the respiration and leaves the reflex irritability intact. It is said to produce no dangerous action on respiration and circulation. (Dr. Gordon says it has a slightly depressing effect on the blood pressure and respiration). It produces a natural physiological sleep and is most rapid in its action, a tendency to sleep being often noticed, a few minutes after its administration. Its hypnotic tendency passes soonest away and if counteracted soon after administration does not return. It does not interfere with the gastric mucous membrane like chloral hydrate. It has no action on the kidneys or bowels.

Therapeutical actions.—Urethane has calmative, hypnotic and antitetic properties. It is pleasant to take, acceptable to most delicate stomachs and may be given with safety and confidence in a large class

of cases where other hypnotics are dangerous or otherwise contraindicated and unsuitable. *Deferred action never occurs after it and it seems devoid of danger in large doses.* Patients get accustomed to it and no instance of *craving* has been known to ensue. In conditions where sleeplessness is the main symptom to be combated, Urethane seems to possess the greatest advantages, since it is decidedly calmative, is well borne by the patient, produces absolutely no unfavourable symptoms as nausea, flatulence, headache or constipation, and the sleep which it produces seems identical with normal physiological sleep. Many patients in which there is peculiarity of constitution preventing the use of opiates, urethane acts well. From over a hundred observations by Von Jaksch, urethane was found most suitable in simple uncomplicated cases but it was of no value when the patient suffered from acute pain. It is useful where a mild sedative or hypnotic is required, as general malaise, restlessness, catarrh, certain forms of skin affections with great irritations, &c. As it does not interfere with the action of the kidneys or bowels it is of great value in insomnia of Gout and Rheumatism. It acts as an *antagonistic to Convulsions, Tetanus, &c.* Having enumerated these general therapeutical uses of Urethane I give a brief clinical description of Urethane as follows :—

(1.) *Simple Insomnia.*—In the list of new hypnotics Dr. Leech places Urethane *fourth* in the order of potency. In slight cases of simple restlessness Dr. Leech finds Urethane in 20 or 30 gr.-doses often very successful. Though the effect is of short duration, the sleep induced continues naturally. If necessary the dose may be increased upto 2 drs., but a larger dose produces at times dizziness if it does not cause sleep. It should be given immediately as the patient lies down. Dr. S. C. Charles considers it fairly useful in sleeplessness of children, on account of absence of disagreeable taste.

(2.) *Insomnia of Cardiac, Mental and Nervous Diseases.*—It can be safely given in the insomnia of Cardiac disease or of acute maladies like Pneumonia, where tendency to heart failure is a pressing danger. Dr. Robert Saundby treated 2 cases of Cardiac disease successfully by 2 gr.-doses of Urethane given at bedtime in water. In painful Aortic Aneurism with persistent insomnia, two doses gave calm refreshing sleep. In Vienna it has been exhibited with marked success in a

patient suffering from *hemiplegia*, associated with disease of the *initial valve*, whose general condition rendered resort to morphia or chloral inadmissible. It is recommended in the insomnia of *Délirium Tremens*, *Acute Mania*, *Melancholia*, &c.

(3.) Hundred and ten observations were made on its hypnotic effect on twenty different patients with various diseases associated with greater or less degree of insomnia. Amongst them were cases of Phthisis, Chronic Rheumatism, Paralysis with Cardiac disease in which both Chloral and Morphia were contraindicated, Carcinoma of Rectum with Carcinomatous Peritonitis causing severe pain, and Aneurism of Aorta. First 4 grs. were given which having no hypnotic effect, 8 grs. were given, which succeeded.

(4.) *Toxicology*.—Urethane is an antidote to *Strychnine*, *Picrotoxine* and *Resorcin*.

Mode of Administration and Doses.—Urethane may be given in solution in water either with or without some flavouring, in doses of from $7\frac{1}{2}$ to 15 grs. repeated after one or two hours if necessary. *Maximum dose* 60 to 120 grs.

URAL.

Characters.—Ural, obtained by mixing Urethane and Chloral, occurs in crystals, soluble in alcohol and but little soluble in water. Melts at 106°F . and volatilizes without decomposing; taste bitter.

Therapeutical properties.—It is a pure hypnotic and should be used for the insomnia of cardiac diseases and in mental and hysterical wakefulness. It bears a close resemblance to Somnal.

USTILAGO MAIDIS.—(Leveille).

Syn.—Corn Smut, Corn Ergot.

Part employed.—The fungus exclusive of chaff.

Habitat.—Parasitic on Indian Corn (*Zea Mays*).

Characters and Chemical Composition.—Irregular globose masses sometimes six inches thick, consisting of a blackish membrane, inclosing innumerable, brownish-black, globular and nodular spores; odour

and taste unpleasant. It contains a volatile alkali, a fixed oil, and an organic acid analogous to sclerotic acid, &c.

Therapeutical properties.—It possesses efficient *abortifacient* and *hæmostatic* properties like ergot of rye, to which it closely resembles in its medicinal virtues and has been regarded by many practitioners to be equally efficient and more uniform in its action than the ergot of rye. The contractions of the uterus which it causes seem to be *regularly intermittent and not tonic or continuous* as is the case with ergot. It is considered superior to ergot in *Passive Hemorrhages*, and also *beneficial in Spermatorrhœa, Psoriasis, Eczema, Fibroid tumours* and similar diseases, &c.

Preparations and Doses.—Pd. Corn Ergot, 10 to 20 grs.

Fl. Ext., 10 to 20 mins.

VACCINIUM CRASSIFOLIUM,—(*Andrzejowski*).

Syn.—*Creeping Huckleberry.*

N. O.—*Ericaceæ.*

Part employed.—*The Whole Plant.*

Habitat.—*United States.*

Therapeutical properties.—It has astringent, diuretic and tonic properties. Dr. T. B. Wood claims for it diuretic powers equal to those of *Uva-Ursi*. It has long been used in North Carolina, both by the profession and as a domestic remedy. It is beneficial in *Catarrhal inflammation of the genito-urinary tract, Gleet, Chronic Cystitis, &c.* In *Dropsy*, from whatever cause, it acts as a prompt diuretic in removing the effusion. It is beneficial in *Chronic Diarrhœa and Dysentery.*

Preparation and Dose.—Fl. Ext., 30 to 60 mins.

VERATRUM VIRIDE.

Therapeutical properties.—There are only two rational indications for its use, viz., to reduce spinal action and to reduce arterial action. As it greatly effects the circulation and as there are purer spinal depressants, in practice, it should simply be used to lessen the force of the circulation. It is obviously *contra-indicated in all adynamic conditions.* When true sthenic arterial excitement is to be combated in any disease, except gastritis, *veratrum viride* may be employed as a prompt, thoroughly efficient, and at the same time, very safe remedy—very safe, since it

is almost incapable of producing death in the robust adult, unless used with great recklessness, and in repeated doses (H. C. Wood). It renders an important service in acute parenchymatous congestion, but not when exudations have taken place.

(1.) *Affections of the Heart.*—It is indicated in those forms of heart disease where Digitalis is contra-indicated. (a) In small doses it is valuable in Palpitations where there is *high arterial excitement*. (b) It also gives good results in Palpitations associated with *cardiac hypertrophy* resulting from valvular or perepheral lesions. (c) It is indicated in *Functional Palpitations and Arythmia*, accompanied by heightened arterial pressure. (d) In Palpitation and Arythmia due to *organic valvular lesions* during the period of *hypersystole*. (e) In Palpitation and Arythmia during the *first stage of arterial or vascular heart disease*. It may be given for weeks together, like Strophanthus, if a sufficient interval be allowed to elapse between each dose and provided that the dose be not excessive, no cumulative effect is produced, and toleration is not established.

(2.) *Affections of the Nervous system.*—(a) In *mania a potu* with bounding pulse and in *other forms of mental trouble with cerebral hyperæmia* it may do great good.

(b) *Chorea.*—Dr. F. E. Gary, of Abbeville, S. C., having a case of severe chorea following rheumatism, after the failure of other remedies, gave veratrum viride (tincture?). Two drops were first administered, and every two drops, to be continued until nausea or a considerable reduction of the pulse should be observed. Just after the administration of the fourth dose of eighteen drops, there was free emesis, and a reduction of the pulse to fifty beats, with great prostration; this, however, under a dose of stimulants, soon passed off, when it was observed that there was great improvement in the choreic movements, which just before had been so violent and serious. The treatment was continued in smaller doses, increasing the quantity in proportion to the movements induced by the chorea. The case continued to improve daily, and at the end of two months was dismissed cured.

(c) It is indicated in Cerebro-Spinal Meningitis, Convulsions, Delirium Tremens, Epilepsy and Hysteria, in sthenic cases.

(3.) *Puerperal Convulsions*.—It is invaluable in puerperal convulsions. They have been promptly arrested with uninterrupted success for nine years past with hypodermic injection of veratrum and aconite, every 20 to 30 minutes, until the system was brought under their influence. Average dose is 4 to 6 drops of tr. veratrum and 2 to 3 drops of tr. aconite. The effects are observed in 15 minutes and no ill results have been experienced from the punctures. This method is contraindicated in anæmic conditions, and on account of depressant action of these drugs on the circulation, some are opposed to. But in plethoric cases where there is necessity of bleeding, as it was practised formerly, it is very preferable.

(4.) Veratrum Viride is indicated in sthenic types of Intermittent, Remittent, Typhoid and other fevers, Pneumonia, Pleuritis, Rheumatism, Congestions of the Portal System, Whooping Cough, Asthma, Amenorrhœa, &c.

Preparations and Doses.—Fl. Ext. 1 drop gradually increased until desired effect on circulation is produced. Solid Ext., $\frac{1}{8}$ to $\frac{1}{2}$ gr.
Tr. (1 to 5 Rect Sp.), 5 to 20 mins.
Veratrine, $\frac{1}{16}$ to $\frac{1}{4}$ or $\frac{1}{2}$ gr.

VIBURNUM PRUNIFOLIUM,—(Linne.)

Syn.—Black Haw. *Part employed*.—The Bark of the Root.
N. O.—Caprifoliaceæ. *Habitat*.—Eastern United States.

Characters and Chemical Composition.—In thin pieces or quills, glossy purplish-brown, with scattered warts, and minute, black dots; when collected from old wood, grayish-brown; the thin corky layer easily removed from the green layer. Inner surface whitish, smooth; inodorous; taste, somewhat astringent and peculiarly bitter. It contains valerianic acid, viburnin, a resinous body of a very bitter taste containing sugar, tannin, and oxalic, citric and mallic acids.

Physiological actions.—Viburnum Prunifolium is a moderator of the excito-motor power of the medulla oblongata. Its virtues are by reflex action or through the nerve-centres conveyed to the female organs of generation and exert upon them a benign influence. While it gives

rest and quiet to functional excitement of these organs, it seems so to control and influence the nervous system as to produce in some way an equilibrium, and thereby promotes healthy functional action and overcomes the inertia of the uterine plexus of nerves. It controls muscular uterine contractions. In large doses it produces neither narcotic nor toxic effects, but only causes "*throbbing in the temples*" as if quinine has been taken.

Therapeutical properties.—Viburnum Prunifolium possesses alterative antispasmodic, nervine, tonic, astringent and diuretic properties. It is a decided and powerful uterine sedative and tonic, proving a most valuable therapeutic agent in the *prevention of threatened abortion and as a corrective of the chronic disposition to miscarry*. On some of the plantations in America, it is the popular belief a woman cannot abort if she be under the influence of black haw, although she may be taking medicine with a criminal intent.

From its anodyne, tonic and alterative action it has a wide range of adaptability in the field of *gynæcology*. It tones up the system, preventing or removing those *harrassing nervous symptoms* that so often torment and wear out the *pregnant woman*, and disqualify her for the parturient effort. It proves equally efficient in many affections of the *non-pregnant woman*, and diseases of the *female organs of generation*, such as various forms of Dysmenorrhœa, all uterine disorders characterized by loss of blood, as, Metrorrhagia, Menorrhagia, &c., in Ovarian and Uterine irritations, Sterility, Subinvolution, False Labour Pains, After-Pains, Vomiting of Pregnancy, &c. All these I describe briefly and clinically as follows :—

(1.) *Abortion and Miscarriage.*—(a) Viburnum Prunifolium possesses the power of *preventing and arresting abortion, miscarriage and all the concomitant troubles attending that condition*; it is as much a *specific* for abortion as quinine is for malaria, and aconite for inflammatory fever. It is particularly valuable in preventing abortion and miscarriage, whether habitual or otherwise, whether threatened from accidental cause, or criminal drugging. Some women abort on the slightest provocation, and they continue to do so, although every care may have been taken in the way of rest, medicine, &c., to prevent it. I have had many such cases, and have been greatly

disappointed, but when I have had the opportunity of commencing the viburnum shortly before the anticipated period, and continued it at intervals on the first appearance of threatening symptoms, these patients have invariably gone to the full term, and done well, without being subjected to the restrictions or debarred from active exercise. In the next class of cases where there may be reason to suspect even a partial separation of the ovum and a dilated external os with severe pains and hemorrhage going on for hours, I have been astonished at its effect, more than three-fourths of these cases doing well. I have had patients in whom a succession of abortion had taken place, but, when under the influence of medicine, they have been able to resist the severest tests—frights, falls, strains, &c.—and no ill effects have followed. I usually order solid extract in pills of four grains (A. D. L. Napier, M. D.).

(b) Inan M. Lvoff has treated fifteen severe (*non-syphilitic*) cases of *threatening and incipient abortion*, with Vib. Prun. Nine of them were cases of habitual abortion. The remaining six had all the symptoms already fully developed, such as *violent hemorrhage, shortening of cervix, a commencing opening of os, and slight spasmodic pain in the womb*. He gave dry extr. in shape of powder or pills in doses of 2 grs. four times a day; sometimes when severe uterine pains were present, $\frac{1}{4}$ gr. of Opium was added to each dose of Viburnum. In none of the cases treated by black haw abortion ensued. In many cases of habitual variety in pauper women the latter remained all the time on their legs, doing lighter kinds of domestic work. They took nothing but Viburnum, and, nevertheless hemorrhage ceased, and pregnancy went on towards its normal termination.

(c) Dr. S. S. Todd has successfully treated cases of *threatened abortions* by the following method:—A roll of hygroscopic cotton large enough to fill the vagina, to which the thread for the removal is attached, is properly wetted with a mixture of 1 oz. of the fl. ext. of viburnum to 2 ozs. of glycerine, and introduced by the patient herself, being pushed well back with the finger against or in close proximity to the cervix. The cotton is not worn during the day, but is inserted in the evening before retiring for the night and removed in the evening. The advantages of using the drug in this manner must be apparent especially in cases where the provoking cause of uterine contraction is in the

neighbourhood of the cervical canal, or about the os externum. In this manner he has succeeded in two or three cases, which at first sight seemed almost hopeless.

(d) In a case of threatened miscarriage the first thing for a woman to do is *to go to bed and assume a horizontal position*. The next is to get her *bowels opened* by a mild aperient, such as Carlsbad salts, assisted in its action by an *injection* composed of mild ingredients. If there is pain after her bowels are opened, throw into the rectum 40 drops tinct. opii. in a tablespoonful of *starch* and warm water, *tepid* water, and take a teaspoonful of *viburnum* t. i d. If the patient be in the habit of miscarrying, whenever she feels the slightest pain she should go into bed, throw into her rectum the starch and laudanum injection, and take a dose or two of *viburnum* (Allen S. Payne, M. D.).

(e.) *Mode and Period of Administration in cases of Threatened and Habitual Abortion.*—When the habit of abortion has been formed, let the patient take from half a teaspoonsful of the fl. ext. four times a day, beginning at least two days before the regular menstrual date, and continuing it not only during the usual period of the catamenial flow, but two days longer than that discharge continues when the woman is not pregnant. When there are indications that an abortion is imminent, the fl. ext. should be administered in teaspoonful doses every 2 or 3 hours until the urgent symptoms subside, and then three times a day until well, and continue its course for a time in decreasing doses of 20 to 30 mins. In severe cases where pains and hemorrhage occur every few minutes many physicians have administered the fl. ext. in doses of a teaspoonful every half hour; in many cases 3 or 4 doses are sufficient to check all the symptoms—and have continued the medicine for several days in smaller doses. It is always well to order a few doses to be taken about the time when the monthly periods are due in the ordinary course, for at such times these patients appear more than usually liable to abort. Instead of the fl. ext. the tincture may be administered in the same manner and doses. As the fl. ext. has both an unpleasant smell and taste, some patients objected to take it and in these cases the solid extract in the form of pills in doses of 2 to 4 grs. every 3 to 4 hours was satisfactorily employed; but it should

be borne in mind that it is not so easily and quickly absorbed in immergent cases. In two cases where the stomach was irritable the fl. ext. was given as an enema by Dr. Henry Wilson.

(f) Thomas F. Houston, M.D., gives Quinine in full doses to pregnant women without hesitancy, simply combining a corresponding dose of black haw with it.

These clinical reports are quite sufficient to confirm the *anti-abortive powers* of *Viburnum Prunifolium*, and I will no longer weary the reader by describing any cases although there are many and authentic, but will close this subject by saying that I myself have been using the remedy with the same satisfactory results in my practice long since.

(2.) *Disorders of Pregnancy*.—It is efficient in the treatment of *sympathetic disorders* incident to pregnancy, where a nervine and sedative is demanded. In the *morning sickness* and *persistent vomiting of enceinte* women dependant on functional derangement of the stomach it promptly restores normal action with permanent success. (S. S. Lawrence, M.D.). There is an obstinate case on record where, after failure of Cerium, Morphia Hypo l., Pop-corn, &c., 30 drops of the fl. ext. was given every hour, for 3 hours and then in doses of 20 drops every hour. Within 24 hours all nausea had ceased and stomach tolerated food.

(3.) *False Labour Pains*.—In such cases, E. W. Roe, M.D., has never known *Viburnum* to fail. He was called to a woman, in her fourth pregnancy at 8th month, suffering for 3 days and nights from a *constant bearing down pain, with a frequent desire to micturate and defecate*. He prescribed *Viburnum* in 10 drop-doses every hour until relieved. Permanent relief was obtained within 3 hours. It was continued four times a day until labour which was at full term.

(4.) *Sterility*.—It is found to act very nicely in certain cases of Sterility of the female. Inasmuch as sterility is often but a symptom of functional derangement of the uterus or of ovary, *Viburnum* in so far as it corrects this derangement, is beneficial. A woman who was very desirous for more offspring was suffering

from ovarian irritation ever since the birth of her last child seven years before, and had since been sterile. Her menstrual course used to last but 2 days instead of five which was her normal time before. She was prescribed fl. ext. in $\frac{1}{2}$ dr. doses four times a day. Next menstruation lasted five days and was plentiful. No pain in ovarian region; the following menstruation was also normal and the lady in due time gave birth to a fine child (E. W. Roe, M.D.). Another woman who was very anxious for offspring, had been married nine years, and had never conceived. Her menstrual periods were frequently delayed a week or ten days, and then would come on with an increased flow and pain. An examination revealed that the whole trouble arose from *abortion soon after conception*. I gave Iodoform and Iron with Viburnum. She became pregnant after the next menstrual period and ten months after she was the happy mother of a fine boy. He has treated numbers of cases successfully in which he has given nothing but the black haw. Iodoform and Iron were used only in three cases on account of the anæmic condition and to restore the lost vigour. It is slow in its action and should be given at least ten days before and after the menstrual period for three or four periods, in those cases of habitual abortion, in order to remove that excessive irritability and establish a tolerance of the impregnated ovum on the part of the womb (W. L. Coleman, M.D.).

(5.) *Dysmenorrhœa*.—Viburnum Prunifolium is destined to take the foremost rank in the list of treatment of agents adapted to the treatment of the various forms of *Dysmenorrhœa*. Many women are disagreeably affected by *opium* at any time, and all are more apt to be during menstruation when the stomach is very irritable, and headache frequently accompanies, especially in those who are troubled with *Dysmenorrhœa*. It is to these cases that *Black Haw* is peculiarly well adapted. It is often sufficient to give this alone in doses of one teaspoonful every four hours, commencing before the expected period, and continuing afterwards for two or three months in doses of half a teaspoonful three times a day. When this remedy alone fails, it is advisable to give an equal quantity of the Fl. Ext. of *Jamaica Dogwood*. This combination rarely fails to give relief.

In all forms of Dysmenorrhœa attended with *profuse menstruation*, Viburnum if administered for several days in advance of the period, as well as during the continuance of the discharge, affords the patient great relief. Where there is with the Dysmenorrhœa a *scanty flow*, it does not prove beneficial.

(a.) In delicate women, married or single, whose mode of living tends to develop an *active nervous system* rather than muscular force, and who are called upon occasionally to endure more fatigue than is their usual custom, or in any case where the *pain occurs at the beginning of menstrual period* before the flow is fully established, or where it is of an *intermittent character* and accompanied with *fulness and weight in the pelvis*, the remedy may be prescribed with good hopes of success. Simple Dysmenorrhœa is a superadded disease to that already existing, and if the chronic derangement give little trouble to the patient during the intervals and be of the nature of slight flexions, slight cervical endometritis, partial stenosis, or where it is neuralgic in character, Viburnum will be found an *excellent palliative*, if not effectual in bringing about a permanent cure by continuing its administration during the interval. The fluid extract may be given in doses of 15 to 60 mins. repeated every one, two or three hours. In ordinary cases half-drachm doses repeated every two hours will be found sufficient.

(a.) *Neuralgic, Spasmodic and Functional Dysmenorrhœa.*—In *Neuralgic Dysmenorrhœa* the administration of the fl. ext. in half drachm doses during the month, and in drachm doses three times a day for several days immediately preceding the menses, will almost invariably insure painless menstruation. In *spasmodic forms* of Dysmenorrhœa which occurs in women of delicate habit and a sensitive nervous organization, its action is usually prompt and beneficial. In the majority of cases of what is called *Functional Dysmenorrhœa*, it will afford decided relief, if properly given. (R. J. Lemont, M.D., and Robert Boal, M.D.).

(b.) *Obstructive or Mechanical Dysmenorrhœa.*—In those cases that are due to flexions, narrowing of cervical canal or other organic obstructive causes, its palliative effect is often well marked. Let any physician administer Viburnum in the dysmenorrhœa due to

uterine flexion—the *most frequent form of dysmenorrhœa* considered by Dr. Graily Hewitt—and he will find the relief speedy and pronounced, but let him eliminate from his cases those in which *surgical interference* is demanded, and he will seldom fail in securing beneficial results, more satisfactory than any other one agent will yield. My note book contains records of following cases :—

CASE 1.—Mrs. H. æt. 36, consulted me, saying that her catamenial epochs were marked by excruciating pain, that under the advice of her physician she had taken every thing—a *drug store*—without relief. I administered a teaspoonful every 4 hours, beginning one day before the expected menstruation and continued at longer intervals, throughout its history. She experienced much relief from the remedy. In another month she again sought advice. This time I gave Viburnum in conjunction with *Piscidia Erythrina* (*Jamaica Dogwood*.) The relief which followed this combination was prompt and complete. I have more than once given Dogwood in these conditions with only partial relief. My note book does not contain the records of a single case where Viburn. and Dogwood jointly failed to restore comfort to the suffering one, or to completely relieve her. There are many cases of similar history—a history of long continued suffering effectually terminated by the use of Viburnum. (F. C. Herr, M.D.).

(c.) *Membranous Dysmenorrhœa*.—Dr. Allen S. Payne has successfully treated many cases of this form of Dysmenorrhœa. Of these four cases were particularly very severe and were under the care for a long time of several able physicians, and their lives had become as they expressed it, *a misery to them*. The following is the plan of treatment which he employed in these cases :—Keep bowels soluble with Carlsbad Salts, and take the following :—

R Fl. Ext. Phytolaccæ, Fl. Ext. Cimicifuga Rac. â â z. 1½,
Vin. Colchicum Sem. drs. 3, Tr. Guaic. Ammon. drs 5.
M. Sig.—30 drops t. i. d.

Just before the expected menses take :—

Camphor grs. 10, Pv. Doveri grs. 10, Ext. Hyoscyami,
grs. 10, Ft. Pills 10. Two pills every 2 hours until
pain ceases, then fl. ext. viburn. prun 60 drops t. i. d.

To be continued until next menses occurs. Plan of treatment to be continued until there is freedom from pain and an increase of the monthly discharge.

(d.) In some cases of Membranous Dysmenorrhœa the practitioner will also find persistent Leucorrhœa. In these cases give—

R Ext. Buchu Fl. Tr. Ferri Perchl. â â ozs. 2, M. Sig. A teaspoonful morning, noon, and night in a wineglassful of water. Hot-water injection at bedtime, using hot water in large quantities, and an occasional dose of Viburnum. As soon as Leucorrhœa is relieved withdraw the iron and buchu, and give the Viburnum t. i. d. If patient is of scrofulous cachexia, give 10 drops Syr. Ferri Iod. t. i. d. in combination with the Viburnum (Ibid.).

(e.) When the Dysmenorrhœic pains are accompanied by Menorrhagia, it is advisable to add to the Viburnum, Hydrastis Can. which has vaso-constrictive properties somewhat like those of the Ergot and Quinine. Twenty drops of a mixture of equal parts of the two tinctures may be given four or five times a day.

(f.) In that form of Dysmenorrhœa with Menorrhagia, caused by fibroid growths impinging upon and twisting the uterine canal, Viburnum with Ergot, has proved beneficial, and much so than either remedy if given without the other (Dr. E. W. Jenks).

(6.) *Menorrhagia and Metrorrhagia.*—(a) In Menorrhagia or Metrorrhagia, depending wholly upon *systemic causes*, as *e.g.*, that in *Phthisis*, *Organic diseases of the Heart*, *Hepatic Disorders*, *Anæmia*, or *Malarial Diseases*, it is peculiarly applicable. (b) It has been prescribed in a number of cases of *Metrorrhagia in unmarried females*, with the happiest effects, in every case the flow being controlled by it and the periods becoming perfectly regular. (c) In the *Metrorrhagia incident to the Menopause* with the multiplicity of nervous derangements from which women suffer at this period, Viburnum has proven very beneficial. It will modify the hemorrhage caused by *uterine growths*, but it will not answer to claim for it, in this class of cases, what we expect from ergot. In hemorrhage from such causes where ergot in full doses is not well tolerated or where the patient is in a *feeble condition*, I have been in the

habit of combining the two remedies in various proportions, with gratifying results. (Edward W. Jenks, M.D., LL.D.).

(d) In the treatment of *Menorrhagia in a chronic form* and which is a disease of frequent occurrence among the *delicate females*, who, from causes incident to their conditions in life, are *overworked and poorly nourished*, and who have arrived at a *critical period* in a woman's life, I find the *Viburnum* an excellent remedy, one that seldom disappoints, yet needs to be persistently pushed. (J. M. Blackberry, M.D.).

(e.) In females sick with *unmodified small-pox*, near the *catamenial period*, *uterine hemorrhage* frequently becomes a most troublesome and serious complication. In these cases *Fl. Ext. Vib. Prun.* has proven in the hands of R. D. Style, M.D., a most valuable remedy; in fact, since he commenced its use he has never found it necessary to resort to mechanical means to check the hemorrhage. (The cases of small-pox were somewhat over 400 within six months.)

(7.) *After-pains*.—*Viburnum* possesses great efficacy in the treatment of after-pains arising from the retention *in utero* of blood clots. The expulsion of these clots is *facilitated*, and the process of *evolution* promoted by the administration of *Viburnum*. These effects are attributed to the general uterine tonic action of the drug.

(8.) *Subinvolution*.—In these cases where there is history of *disturbed menstruation*, or *metrorrhœa*, of *failing health*, let the physician faithfully persist in its use, and he will find his power of control over the disease much more complete than formerly. (T. C. Herr, M.D.).

(9.) *Ovarian irritation*.—It effectually removes ovarian irritation of long standing. Mrs. M., æt. 28, consulted me for an *almost constant pain in ovarian region* on both sides which was much aggravated at menstrual epoch. Had been in this condition for the past three years—since last confinement. *Viburnum* was used for ten weeks, when she declared herself cured (E. W. Roe, M.D.).

(10.) *Viburnum* is also serviceable in *uterine Dyskinesia*, *Reflex Nervous disturbances of the uterine organ*, *Post-Partem Hemorrhage*, &c.

(12.) *Viburnum*, owing to its *astringent* properties, is useful in *Diarrhœa* and *Dysentery*. It has a highly beneficial effect on *Intestinal Colic* accompanied by *Diarrhœa*. *Viburnum* is preferable to *Opium* in such cases as it is *not toxic*, does not cause constipation, and its action is more a local one.

(13.) *Contraindications*.—(1.) It is contraindicated when *foetal membrane is torn and water discharged*. (However when during sixth or seventh month of pregnancy there is a rupture of membrane but there are still hopes of preventing a miscarriage, *Viburnum* may be used.) (2.) It should *never* be used when *foetus is dead*. (3.) When *labour is still under way and birth expected momentarily or if a miscarriage has commenced*. (4.) When mother has a *severe illness* which contraindicates the causing of any delay in the birth. (5.) Also contraindicated for *severe pains* until the *uterus* has been *washed out*.

Preparations and Doses.—Fl. Ext. 15 to 60 mins.

Solid or Pd. Extr. 3 to 10 grs.

Inf. (1 to 20), $\frac{1}{2}$ to 2 fl. ozs.

Tinct. (1 to 5 Pf. Sp.) $\frac{1}{2}$ to 2 fl. drs.

Viburnin (glucoside), 1 to 3 grs.

Liquor Sedans (Parke, Davis, & Co's.).—A scientific combination, acting as a Utero-Ovarian sedative and anodyne. Each fl. oz. represents : *Viburnum* and *Hydrastis*, â â grs. 60, *Jamaica Dogwood* grs. 30, combined with aromatics q, s. *Dose*, 1 to 2 fl. drs.

Uterine Sedative.—Under this name the following potion has been prescribed in cases of *Dysmenorrhœa* :—

R Tr. Vibur. Prun. mins. 20, *Elixir de Garus, Syrup, â â 231·48 grs. Aquæ Dest. 462·96 grs. *Dose*—one soup spoonful every half or one hour.

VICTORIA OFENER BITTER-WATER.

Chemical Composition.—According to the analysis of Prof. H. E. Roscoe it contains the following constituents in grains per gallon :—

* Elixir de Garus is made of Tr. Saffron. Co. and Syrup of Capillus Veneris (Maiden Hair), coloured with Caramel dissolved in orange-flower water.

Magn. Sulph. ...	2296·749.	Sodæ Sulph.	1201·851.
Pot. Sulph.	30·849.	Calcii Sulph.	163·128.
Sodii Chloridi ...	123·956.	Sod. Bicarb.....	83·188.
Alumina	0·756.	Silica 0·109 ; Acid Phosph.	Trace=
			Total Soluble Solids ...3904·586.

Hence Victoria Water contains 58·156 grs. of total soluble constituents in 1000 parts of water or 50 to 58 per cent of Sulphate of Sodium and Sulphate of Magnesium.

Comparative Analysis.

	Victoria.	Hunyadi Janos.	Æsculap.	Friedrichshall.
Sulphate Magnesium ...	3281·07	1563·50	1750·3	641·38
„ Sodium	1716·93	1579·57	1340·7	715·35
Total...	4998·00	3143·07	3090·10	1356·73

Therapeutical properties.—The proportion of Sulphate of Magnesia and Sulphate of Soda, as found in the water of the Victoria spring is a peculiarity which distinguishes it from *all the other waters* of that kind, even from the same locality. The water of the spring, containing twice as much Sulphate of Magnesia as that found in similar springs of the same region, and as the normal constituents of universal Bitter Water are present in the ordinary proportions, proves that it is the most concentrated, and efficacious Aperient Mineral Water of high medicinal value. It is in fact a natural fluid magnesia and a powerful natural purgative, gentle, safe, and speedy in its action. *One Bottle of Victoria is equal in its effects to two of other Bitter Waters, hence it is much cheaper.*

It is of high medicinal value for the treatment of imperfect digestion, habitual or temporary constipation, affections of the stomach and liver, and other similar functional derangements ; for inflammation and congestion of the brain, lungs, etc, bilious attacks and attendant secondary evils ; chronic diseases of the respiratory organs, and defective blood circulation, stoppages of the blood in the hypogastric region ; hæmorrhoids, cutaneous affections and pustules in the face ; in rheumatic and gouty disorders ; organic diseases resulting from fatty degeneration, and general obesity ; abnormal formation of uric acid concretions, and subsequent formation of gravel and calculus in the kidneys and

bladder ; during pregnancy and in many diseases of women ; as also to remove the consequences of excess in diet, etc..

Dose.—For ordinary purgative purposes, half a wine-glass may be taken at bed time, or a wine-glassful in the morning, fasting. It is most efficacious when warmed to at least 60° Fahr., or when an equal quantity of hot water is added to it.

VIOLA TRICOLOR, (Linne.)

Syn.—*Pansy, Heart's-ease (Eng.) ; Pensée, Pansee sauvage (Fr.) ; Freisamkraut, Stiefmutterchen (Ger.)*;

Part employed.—*Leaves of the wild-grown plant.*

N. O.—*Violaceæ.*

Habitat.—*Grows wild in Germany and France ; naturalized in England and United States.*

Characters.—Stem angular and nearly smooth ; leaves alternate, petiolate, ovate or oblong, crenate, with leaf-like, pinnatifid stipules ; flowers with an obtuse spur, and the variegated petals shorter or longer than the calyx ; inodorous ; taste somewhat bitter and acid.

Physiological actions.—Given in medicinal doses, *Viola Tricolor* neither pukes nor purges ; in fact, it causes little systemic disturbance other than increased diuresis, and a decided alteration in the odour of the urine. In large doses, it produces heaviness of the head, burning sensation in the scalp above the forehead, drooping of the eye-lids, contraction of the pupils, obscurement of vision, much salivation, and griping pains in the bowels. There is tenesmus and frequent desire to urinate, with profuse urination ; urine turbid, offensive, and smelling like cat's urine.

Therapeutical actions.—*Viola Tricolor* has mucilaginous, emollient and slightly laxative properties. It is regarded as the most effective remedy in the treatment of *Eczema*. Strack has treated several cases of *Eczema* of the scalp and face by administering a fistful of the fresh herb, deprived of root and flowers, boiled in milk, morning and night, or in default of fresh herb, be ordered half a drachm of dried herb in a similar manner. The most prominent early effects after its administration, as described by Strack, Hufeland and Dr. H. G. Piffard, will

be a decided aggravation of the eruption and increase of the area invaded by it, together with increase of local heat and pruritus. This condition may be expected within from three to six days after commencing the use of the drug, and reaches its height in about a week later. After this it sometimes subsides, even during continuance of the medicine, and recovery rapidly ensues. If it be now stopped the eruption decreases and in a short time the patient finds himself entirely well, or somewhat better than before he began treatment. A second or or a third course often completes the cure. The best and striking results that Dr. Pifford has obtained, have been in the second stage, with serous or sero-purulent exudation and crusting. In a certain proportion of cases, he precedes its administration with a single full mercurial, either blue pill or calomel, and in perhaps one-third of the cases appropriate local treatment is conjoined. The very decided primary aggravation of the eruption which usually followed the above method of administration was by no means an agreeable addition to the patient's sufferings. To obviate this difficulty, after reflection and increased experience he has arrived at the following mode of administration and doses of the drug.

For young children the proper quantity to begin with is from one to five drops of the fluid extract once or twice a day. If the case progress favorably the dose should be maintained; if no effects appear it should be increased; if aggravation occurs the medicine should be discontinued for a few days and afterward resumed in smaller doses than at first. In *subacute* and *chronic eczematata* the commencing dose should be much larger, ten or fifteen drops at least; this, he continues, or increases, if necessary, until the eruption begins to show activity, that is until a decided aggravation is imminent. At this point dose should be discontinued, as before mentioned, and resumed in less quantity. In adults the commencing dose may be placed at $\frac{1}{2}$ to 2 drs. in subacute cases. It is to be taken in a small quantity of water, once twice or thrice a day, always on an empty stomach and when possible about half an hour before meals.

Preparation and Dose.—Fl. Ext. $\frac{1}{2}$ to 2 fl. drs.

WARBURG'S FEVER TINCTURE.

Preparation.—(1.) It is prepared by adding 1 oz. each of Aloes. Angelica and Zedoary-root, and 40 grs. each of Camphor and Saffron in powder, to 24 ozs. of Alcohol or Brandy, letting them macerate for seven days, with frequent shaking. The liquid is then filtered, and $\frac{1}{2}$ oz. of Sulphate of Quinine is added.

(2.) **Abbreviated Formula.**—Tr. Aurantii 5 parts, Tr. Aloes Co parts 20, Alcohol parts 15, Sp. Camphor parts 2, Quiniæ Sulph. part 1. Dissolve the sulphate of quinine in the alcohol, and add the other liquids.

Therapeutical properties.—Warburg's Fever Tincture possesses the property of raising the vital powers to a level above the depressing influence of all diseases. It is most valuable in general prostration of the system. If a patient is amenable to its influence, it is never too late to administer it. Many persons have been snatched from the very jaws of death by its being forced down their throat. To a dying man it may be given every hour. Dr. Skey chiefly uses it in carrying patients through severe and protracted illness as an antidote to prostration. There is scarcely a dry condition of the tongue which it will not clean and moisten in twenty-four hours. Excellent results have been secured by its use in cases of obstinate Fevers and Respiratory Affections.

(1.) *Fevers.*—It surpasses any other remedy in the treatment of malarial fevers. Cases in which quinine is useless seem to be perfectly under the control of this tincture. In all classes of Fever having the type of Intermittent it often cuts short the disease in two or three days and sets at naught all the recognized doctrines of the old school of medicine. It is mostly used by planters for the treatment of fever among coolies and farm labourers, who do not like to take (or are too poor to buy) many doses of Quinine. It is said to require being given but once, at most twice, best in the middle of the day, as a profuse perspiration is thus encouraged. In obstinate cases of Malarial Remittent Fevers it can be effectively administered even during the pyrexial period.

(2.) *Respiratory Affections*.—Dr. Skey has often cut short a severe attack of *Influenza* in one night by its means. He has given it freely in *Chronic Bronchitis of old age* and the immediate effect has been to convert the tenacious mucus into a thin watery expectoration. He has given it in *Phthisis* in tonic doses of from one to two teaspoonfuls 3 or 4 times a day. He has given it with success in *Asthma*.

Mode of Administration and Doses.—In obstinate remittent and continued fevers, $\frac{1}{2}$ oz. after any convenient purgative, and repeated in 3 hours. No food or drink to be taken from the first dose to an hour after the second. For ordinary cases, 2 drs., for a dose.

WATER.

HOT WATER DRINKING.

The water must be *hot*, not cold or lukewarm, *i.e.*, at a temperature of 110° to 150° F. such as is commonly liked in the use of tea and coffee.

Physiological actions.—(1.) The drinking of *hot* water causes *downward peristalsis* of the alimentary canal (while *cold* water *depresses* and *lukewarm* water causes *upward peristalsis* or *vomiting*.) (2.) Dilutes the ropy secretions of the whole body and renders them less sticky or tenacious. (3.) It acts as an inside bath, washing down the bile, slime, yeast and waste and keeping the stomach fresh and clean for eating. (4.) The fæces become black with bile washed down its normal channel. This blackness of fæces lasts more than six months, but the intollerable fetid odour of the ordinary fæces is abated and the smell approximates the odour of the fæces of healthy infants sucking at healthy breasts. (5.) It dissolves the abnormal crystalline substances that may be in the blood and urine. (6.) The urine becomes as clear as champagne, free from deposit on cooling or odour, with sp. gr. 1015 to 1020. (7.) The sweat starts freely after drinking, giving a true bath from the centre of the body to the periphery. (8.) It promotes elimination every where. (9.) All thirst and dry mucous membrane disappear in a few days. (10.) There is an improvement in the

feelings of the patient. (11.) The digestion is correspondingly improved.

Therapeutical actions.—(1.) The drinking of hot water can be practised by people in health throughout life. (2.) It is the foundation for all treatment of *chronic diseases*. (3.) By its use *ice water* in hot weather is *not craved* and those who have drunk hot water freely are cured of the propensity. (4.) *Inebriety* has a deadly foe in this use of hot water. (5.) It relieves *spasms* and *colic* of bowels by applying the relaxing influence of heat inside the alimentary canal, just as heat applied outside the abdomen relieves. (6.) In case it is desirable to make the hot water palatable, Sp. Ammon. Aro., Clove Blossoms, Ginger, Lemon Juice, Sage, Sulphate of Magnesia, &c., are added. (7.) Where there is *intense thirst and dryness*, a pinch of Calcium Chloride or Potassium Nitrate be added to allay thirst. (8.) When there is *Diarrhoea*, Cinnamon, Ginger or Peppermint may be boiled, and the quantity of water to be drunk lessened, and the hotter the water the better. (9.) For *Constipation* a teaspoonful of Sulphate of Magnesia or half a teaspoonful of Taraxacum may be added. (10.) In cases of Hemorrhage the temperature of the water should be at a blood heat. (11.) The gas that sometimes eructates after drinking hot water is not formed by the water, but was present before and the contraction of the peristalsis ejects it. (12.) If objection be made against this treatment by hot water drinking, it must be remembered that we are 75 per cent water. (13.) Some physicians are against hot water drinking on the ground that it would burn the covering of the stomach. If this is so then a denudation of the lining of the stomach for 25 years is compatible with a state of otherwise perfect health with no sign of illness for that period of time and is also compatible with the numerous cures that have occurred under hot water as a foundation during the past 25 years (Dr. Salisbury). Again the same physicians drink tea and coffee at the same temperature. These data about the therapeutical drinking of hot water were founded on physiological experiments at the outset, verified in pathology and based on the experience derived from the treatment of thousands of cases since 1858 (Ibid).

(15.) *The Quantity, Time and Mode of Drinking.* (a.) The quantity of hot water should be half a pint at one drinking. If the Sp. Gr. of urine stands at 1030 more hot water should be drunk, and if it falls to 1010 less hot water. (b.) The time of taking it is 1 to 2 hours before each meal, or half an hour before retiring to bed. (c.) In drinking, the hot water should be sipped, and not drunk so fast as to distend the stomach and make it feel uncomfortable. From 15 to 30 minutes must elapse during the drinking of the hot water. A period of six months is generally required to wash out the liver and intestines thoroughly.

(16.) *Precautions.*—Should the patient feel *thirsty between meals*, hot water can be taken any time between two hours after a meal and one hour before the next meal. This is for the purpose of avoiding the dilution of food in the stomach with water. One to two hours allows the hot water time enough to get out of the stomach before the food enters or sleep comes and thus *avoids vomiting*. Further, not more than 8 ozs. of liquid to be drunk at a meal in order not to unduly dilute the gastric juice or wash it out prematurely and thus interfere with the digestive process.

HOT WATER.

Uses of Hot Water as a therapeutic agent may be summed up as follows:—

(1.) Hot water as hot as can be drunk is used in a large number of cases for the relief of nausea and vomiting, with success. These are classified as: (a.) Cases in which these symptoms were caused by *overloading the stomach when its function had been impaired by protracted disease*. (b.) Cases in which they were produced by *nauseant medicines (not emetic)* at the time they were taken. (c.) Cases of *Acute Gastritis*, caused by the *ingestion of irritants*. (d.) Cases in which these symptoms were purely *reflex*. (e.) Cases of *Chronic Gastritis*. (f.) Cases of *Colic in newly born infants*. (g.) Cases of *Flatulent distension of the stomach* in the adults. (h.) Cases of *Cholera Infantum*.

(2.) The *decongestive and hæmostatic* action of hot water is well-known in *Gynæcology*. The hot douches used in Gynæcology to

remove inflammation is another use of hot water ; the patient should be in a reclining posture. the temperature not far from 110° F, the stream intermittent, and applied by a nurse.

(3.) *Epistaxis*.—As a result of 100 experiments it is found that if the hands are bathed for half an hour in water of a temperature of from 86° to 95° F, the temperature in the external auditory meatus is increased, the pulse and the respirations are accelerated and the blood pressure in the temporal arteries is considerably increased, with distension of retinal veins. On substituting for the warm water a like quantity having a temperature of 40° to 55° F. the effects are exactly the contrary. The inference is that bathing the hands in cold water is an excellent way to combat cerebral hyperæmia. That obstinate bleeding from the nose may be stopped by this simple means.

WATER MELON.

CUCUMIS CITRULLUS, (D.C.); CITRULLUS VULGARIS, (*Shrader*);

CUCURBITA CITRULLUS, (*Linn.*)

Syn.—*Tarbuz* (*Guj.*); *Kalingad* (*Bom.*); *Tarmuj* (*Beng.*) *Tarabū* (*Hind.*); *Pitch-pullum* (*Tam.*).

Part employed.—*The Seeds and Juice of the Fruit.*

N. O.—*Cucurbitaceæ*. *Habitat.*—*Hot climates in almost every part of the world, but especially abundant in the East Indies.*

Characters.—Seeds, flat, ovate or oblong, smooth, and of a reddish colour, and marked with two small channels running from both sides of the apex. The testa, brittle, containing white, oily cotyledons having an almond like taste.

Therapeutical properties.—The seeds are cooling, demulcent, diuretic and strengthening. They are used in *Strangury* and affections of the *Urinary organs*; also valuable as anthelmintic. The freshly expressed juice of the fruit is much used as a cooling diuretic in *Dropsy*, *Gonorrhœa* and other urinary affections. It is also valuable in *Chronic Hepatic Congestion* and *Chronic Intestinal Catarrh*.

Preparations. and Doses.—Seeds, $\frac{1}{2}$ to 2 drs. or more.

Fl. Ext. Seeds, $\frac{1}{2}$ to 2 fl. drs.

Juice, ad libitum.

XANTHOXYLUM FRAXINEUM (*Willd.*)
X. CAROLINIANUM, (*Lamb.*)

Syn.—*Prickly Ash.* *Part employed.*—*The Bark and Berries.*
N. O.—*Rutaceæ.* *Habitat.*—*United States.*

Characters.—It is a prickly shrub rising about six feet in height. The bark occurs in curved or quilled fragments, about $1/25$ inch thick; outer surface brownish-gray, with whitish patches, and minute, black dots, faintly furrowed, with some brown, glossy, straight, two-edged spines, linear at the base, and about $\frac{1}{4}$ inch long; inner surface whitish, smooth; inodorous; bitterish and pungent. *X. Carolinianum* resembles the preceding, but is about $1/12$ inch thick, and is marked by many conical, corky projections, and by stout, brown spines, rising from a corky base.

Therapeutical properties.—Prickly Ash possesses alterative, aromatic, carminative, emmenagogue, lactagogue, sialagogue, stimulant, styptic, sudorific and tonic properties. It is one of the *best active diffusible and permanent arterial and nervous stimulants known*. It is indicated in cases of Rheumatism, Scrofula, Syphilis, Chronic Paralysis, Indigestion, Colic, Cold and Languid states of the system, General Debility, Low forms of Fevers, Diphtheria, Malignant Scarlatina, Hemorrhage from the Stomach, Bowels or Urinary Organs. Combined with Alnuin it is useful in the atonic condition, which frequently follows an attack of Cholera Infantum. Locally it is applied to old and indolent ulcers.

Preparations and Doses.—Pd. Bark, 5 to 30 grs.

Pd. Berries, 10 to 40 grs.

Fl. Ext. Bark, 10 to 40 mins.

Fl. Ext. Berries, 5 to 10 mins.

Solid Ext. 3 to 10 grs.

Tinct. (1 to 10 Pf. Sp.), 30 to 60 mins.

Xanthoxylin (concentration), 1 to 4 grs.

YERBA BUENA.MICROMERIA DOUGLASSII, (*Benth.*)*Part employed.*—*The Leaves.* N. O.—*Labiatae.**Habitat.*—*California.*

Therapeutical properties.—It possesses aromatic stimulant, stomachic, carminative and anthelmintic properties. It relieves nausea and spasmodic pains in the stomach and intestines. It is a good vermifuge for round worms in children.

Preparations and Doses.—Pd. Leaves, 1 to 2 drs.Fl. Ext. $\frac{1}{2}$ to 2 fl. drs.**YERBA REUMA.**

FRANKENIA GRANDIFOLIA.

Syn.—*Flux Herb (Span.)**Part employed.*—*The Herb.*N. O.—*Frankeniaceae.**Habitat.*—*California.*

Therapeutical properties.—Its therapeutical properties as a topical application are chiefly due to its containing a peculiar astringent principle and a large amount of Sodium Chloride. It is beneficially employed as an injection in Catarrhal affections of the nares and the genito-urinary tract. For this purpose an ounce of the tincture of the strength of 4 ozs. of the fl. ext. to the pint of alcohol is added to 3. ozs. of water, and used as an injection. In vaginal leucorrhoea this injection is said to be peculiarly beneficial.

Preparations and Doses.—Fl. Ext. 10 to 20 mins. When used as an injection or a gargle, it must be diluted with three times its bulk of water.

YERBA SANTA.

(ERIODICTYON GLUTINOSUM.)

Syn.—*Holy Herb, Saint Herb, Bear's Weed, Consumptive's Weed.**Part employed.*—*The Leaves.* N. O.—*Hydrophyllaceae.**Habitat.*—*California and Mexico.*

Characters.—A perennial evergreen plant, 3—5 ft. high, covered with bark near the base, smooth, green and herbaceous along the stem and branches. It is evergreen, branches freely and makes a beautiful appearance. The leaves are lanceolate, elliptical, petiolate, finely dentate, 1—3 inches in length; are alternate, with 1 to 3 or more growing from each axil. The upper surface is perfectly smooth and of the richest dark green, and is so perfectly varnished with its resinous principle as to present a most gorgeous spectacle. The under aspect presents a silvery appearance, which is due to its pubescency. The flowers are of a pinkish purple blue, densely clustered, racemed.

Chemical Composition.—According to Dr. Bundy, Yerba Santa contains from thirty to forty per cent. of a gum resin, in which its medicinal virtues are supposed to lie, and alcohol of ninety per cent. is the best menstruum with which to extract it. It has a sweet gummy taste, something like tolu, and requires to be given in syr. symp., syr. acaciæ, or glycerine, either of which suspend it well. Dr. McLaughlin separated the following constituents from the drug: Two resins, one soluble in alcohol and one in ether; a bitter principle; gum; tannin; a fixed and a volatile oil; a peculiar saccharine principle and a crystalline principle.

Therapeutical properties.—Yerba Santa possesses astringent, demulcent, diuretic, tonic, sedative and balsamic properties. It is an efficient expectorant without nauseating properties. The resinous principle, in which it is exceedingly rich, and on which its *sedative and balsamic properties* seem to depend, *exerts a decidedly soothing and alterative effect upon the mucous surface*. It is said that *atonic condition of the mucous surfaces*, wherever it might be, whether in the respiratory organs or elsewhere, is a positive indication for the drug, as it has proved to be so in such conditions of the stomach and bowels, as well as in the respiratory organs. It has long enjoyed a local reputation as a remedy for coughs and colds among the residents of the sections in which it is found. Under its use the cough is soon mitigated, the expectoration becomes less abundant, the appetite improves, the food is better digested and assimilated, the flesh and strength is regained, and frequently cases which have not been benefited by previous treatment are rapidly restored to health. One of the most

remarkable properties of the drug is its *power of completely destroying the bitter taste of Quinine*. It is perhaps the most direct restorative drug in affections of the respiratory organs that we possess. It is a very effective agent in the treatment of Chronic Bronchitis, Bronchorrhœa, Pneumonia, Phthisis, Aphonia, Chronic Hoarseness, Asthma, Hay Asthma, Pertussis, Hæmoptysis, Laryngitis, Chronic Gastric Catarrh, Hemorrhoids, Chronic Derangements of the Kidneys and Catarrhal troubles of the Genito-Urinary tract, &c. All these I briefly describe clinically as follows:—

(1.) *Affections of the Respiratory Organs.*—(a) *Asthma*: Nothing equals the efficacy of Grindelia Robusta and Yerba Santa in the treatment of Chronic Asthma, when given in the proportion of two-thirds of the former to one-third of the latter (Dr. D. L. Field.) A lady was subject to attacks of asthma for 12 or 14 years. She had dry cough, scanty expectoration, the paroxysms gradually increasing in frequency and intensity until they became very severe and of unusual length. I gave expectorants and antispasmodics freely, used inhalation of Chloroform, Ether and Amyl Nitrite, without affording my patient much relief, and as a last resort, tried Yerba Santa and Grindelia Rob. in combination, giving $\frac{1}{2}$ dr. doses of each every hour for the first two or three doses, then lengthening the intervals to 2 or 3 hours. Relief followed very speedily without further recurrence of the paroxysms. (F. A. Mandeville, M. D.). Yerba Santa is often used instead of tobacco, the smoke being inhaled, and giving relief in asthma.

(b.) *Acute Bronchitis.*—Yerba Santa has proved to be a valuable remedy in acute bronchitis, in doses of 10 to 60 mins. of the fl. ext., glycerine being the best vehicle, as water and syrup precipitate the gummy portion of the preparation.

(c.) *Chronic Bronchitis*: In *Chronic Bronchitis* that is so frequently met with among *old people*, it works like a charm. Mr. K., æt. 65, who, had suffered for two or three years with chronic bronchitis, had tried all the doctors in the country, but had not obtained any relief. I put him on a combination of Yerba Santa and Grindelia Rob. He was cured after taking 3 or 4 ozs. of the preparation (J. A. Sterrett M. D.) For *Chronic cough with profuse expectoration* it is the remedy. By its continued use, there is a *lessening of expectoration and cough*,

and ere long a normal condition of the affected membrane is produced and a permanent cure realized. The following is a usual formula :

R. Fl. Ext. Yer. San. drs. 4, Fl. Ext. Pin. Cán. drs. 4,
Glycerini vel Syr. Simp., ozs. 3. M. Sig. Teaspoonful every
3 or 4 hrs.

If there is *hæmoptysis* I add the *Ext of Hamamelis* drs. 4 to the above. If *expectoration is tough, tenacious, and hard to raise*, add *Tr. Sanguinaria Co.* drs. 4. (Dr. A. W. Bixby).

(c.) Yerba Santa is also useful in *Atonic Bronchitis* and in the cough of *Measles*.

(d.) When any patient calls on Dr. J. Bundy for treatment, who has a *dry hacking cough, with a constant desire to clear the throat, with scanty secretion from the bronchial tubes, with dryness of the throat*, he invariably prescribes the *Eriodyction*, and with such certainty of cure that he has seldom been disappointed.

(e.) *Bronchorrhœa* : We occasionally meet cases of *Bronchorrhœa* and in those cases we always find a perfectly *relaxed condition of the membrænes*. Yerba Santa brings them to *tonicity* by correcting and inducing a perfect circulation, nutrition and secretion of the parts. It might seem strange to some that one remedy should correct two perfectly opposite states, but it does it precisely as above stated—by correcting the condition and nutrition of the parts, and when this is accomplished a change in the perverted secretion must follow whether it be an excess or defect—lessening it if it is in excess—increasing it if it be deficient. In *Bronchitis* with *Bronchorrhœa*, its action is similar to the *combined action of Ipecac and Bals. of Peru, its stimulating properties predominating*. The following is an excellent combination :

R. Pot. Iodidi dr. $1\frac{1}{2}$, Ext. Yer. San. Fl. ozs. 2, Ext. Grind.
Rob. Fl., Syr. Pruni Virg., â â oz. 1. M. Sig. A teaspoon-
ful every 4 hours.

(f) In *paralysis of the bronchial tubes*, Yerba Santa relieves the congested or thickened epithelium, and the patient can breathe freer.

(g.) In *Emphysema* it also operates like charm (Dr. H. P. Fry).

(h.) *Pertussis*.—Under the influence of the remedy the whoop generally lasts but a few days, and in some instances it subsides alto-

gether. Alone, without Pot. Brom. or Physostigma, it effects remarkable results, but when these remedies are added they effectually break up the condition. (Ibid).

(i.) *Pneumonia* :—I was called to a case of Pneumonia, involving the whole right lung; the cough dry and severe, a severe pain, and I prescribed :—

R Ext. yerb. San. Fl. ozs. $2\frac{1}{2}$, Tr. Aconitæ dr. $\frac{1}{2}$, Syr. Simp. ozs. $1\frac{1}{2}$. M Sig. One teaspoonful every 2 or 3 hrs.

In about 12 hours secretion was thoroughly established, and expectoration very free, pain gone, &c., and with the aid of Quinine, made a good recovery in 8 days. (J. H. Bundy, M.D.)

(j.)—*Laryngitis*.—In the acute laryngitis of children (so-called False Croup), Yerba Santa may be added to other remedies with advantage :—

R Ext. Yerbæ San. Fl. drs. 2, Sod. Carb. grs. 12, Glycerine oz. 1, Aq. Cinnam. oz. $1\frac{1}{2}$. M. Sig. For a child 2 years of age, a teaspoonful every 2 hrs.

J. P. R. suffered severely with *Laryngitis*, which had extended to bronchi. There was atmost entire loss of voice, cough hoarse and husky, expectoration thick and streaked with blood, pain in upper part of chest, throat dry, and, it was burning and smarting from the root of the tongue down to his lungs. After failure with usual internal remedies and inhalations, I prescribed teaspoonful doses, of a mixture of Fl. Ext. Yerbæ San. ozs. 2 and Syr. Acaciæ oz. 1., five or six times daily. I also counterirritated with a sufficient quantity of a mixture of Croton and Olive Oils. In one month he reported himself perfectly well. (J. H. Bundy, M.D.)

Drs. H. P. Fry and Bixby have successfully employed Yerba Santa in both acute and chronic laryngitis.

(k.) *Hay Asthma*.—A case of obstinate hay asthma who had suffered fearfully every winter for the past ten years and who had consulted various physicians without benefit and taken many *patent* remedies without relief, was administered :

R Fl. Exts. Grindeliæ Rob. et Yerbæ Sant., coch. parv., j.,
 Aquæ Puræ, coch. parv., 11. M. Sig. A teaspoonful
 every 20 minutes until relieved ; then at intervals of 3 hrs.
 until cured.

He obtained prompt and efficient relief after 3 doses and continued the use until 12 doses were taken. The patient wanted to know why some of the other physicians in this part of the country did not know what to give years ago (C. H. Yelvington, M.D., Susquehanna, Pa.)

(l.) *Chronic Hoarseness*.—T. C. S. Berry, M. D. had a chronic hoarseness of 20 years' standing, which nothing relieved, and which was yearly becoming worse. One small bottle of Yerba Santa entirely relieved the whole trouble. He has used it in similar cases for others with like results. He regards the action of the remedy as a topical only, a few drops in Glycerine, dissolved in the mouth, having as good an effect as a teaspoonful in the stomach.

(m.) *Tuberculosis, Phthisis, Pharyngitis, &c.*—I have tried Yerba Santa in *Tuberculosis*, and that it will *relieve the tickling sensation in the throat*, that is so annoying to *Consumptives*. Mr. C. who has been suffering with tuberculosis for the past six years, says that he cannot find anything to relieve the cough as quickly as Yerba Santa. I use it in combination with Glycerine or Grindelia Rob. (J. A. Sterrett, M. D.) It is useful in the cough of *Phthisis* ; is also useful in cough and expectoration is useful in the cough of *Phthisis* ; it is also useful in cough and expectoration depending on *Pharyngitis* and other throat troubles. It gives immediate relief in *Aphonia* (tubercular).

(o.) *Hæmoptysis* :—Mrs. N., a teacher, came with cough and hæmoptysis. Found bronchial tubes dilated, and in an atonic condition. I gave a teaspoonful of a mixture of Tr. Yerbæ San. drs. 4 and Glycerine ozs. 3½, three or four times a day—when all the symptoms disappeared (Dr. Gabel) See also. “(c.) *Chronic Bronchitis*.”

(2.) *Affections of the Urinary Organs*.—I have tested Yerba Santa in functional derangements of the kidneys and urinary apparatus in acute and chronic forms, and I find it very efficacious in bringing about a healthy action in all the excretory functions of the animal economy. A young man had kidney disease for about six weeks ; I

gave him 15 mins. of Yerba Santa four times a day, and in four days he was all right (G. W. Mallory, M.D.). It is excellent in Gonorrhœa as an injection, as well as per orem.

(3.) *Hemorrhoids and Leucorrhœa*.—With an atonic condition of the mucous membrane of the alimentary canal, accompanied by hemorrhoids or leucorrhœa, the Yerba Santa is a very efficient remedy. The following has effected cures in very stubborn cases of long standing of both hemorrhoids and Leucorrhœa :—

R Fl. Ext. Yer. San., Fl. Ext. Pin. Canadensis, Fl. Ext. Hamamelis, â â drs. 4, Glycerini, q. s. ad zs. 5. M. S. Teaspoonful four times a day.

If constipation exist, $\frac{1}{2}$ oz. of Fl. Ext. of Cascara Sagr. may be added to the above (Dr. A. W. Bixby.) In 3 cases of Hemorrhoids that had been treated with every conceivable remedy for piles, and one had already been operated upon, but without effecting a cure, J. H. Bundy, M.D., administered teaspoonful doses of the Fl. Ext. Yerba Santa in a little syrup, t.i.d. The result was that in four weeks' time all the cases reported themselves cured.

(4.) *Colitis*.—I had a most inveterate case of chronic colitis which had been under my treatment for over 3 years. In my despair I prescribed $\frac{1}{2}$ dr. doses of the fl. ext. t.i.d., which in five weeks effected a complete cure. (C. A. Bryce, M.D.)

(5.) *Incompatibles*.—Preparations of Yerba Santa are incompatible with the acid salts of Quinine, the bisulphate, for example. Quinine should be prescribed in the form of the neutral sulphate, and no acid must be used to dissolve it.

Preparations and Doses.—Fl. Ext. 15 to 60 mins.

Solid Ext. 3 to 12 grs.

Fl. Yerba S. Arom. (for making Syr. Yerba. Aro.) 1 to 4 fl. drs.

Syr. Yerba S. Co.:—Fl. Ext. Yerba S. 1 fl. oz. Pot. carb. 100 grs. Water $7\frac{1}{2}$ fl. ozs. sugar 14 ozs. av. Dissolve Pot. Carb. in water, add the fl. ext. and let stand for a few hours. Decant the clear liquid, add the sugar, and dissolve with the aid of a gentle heat. Dose, 1 to 4 fl. drs.

Syr. Yerba S. Arom. :—Fl. Yerba S. Aro. 4 fl. ozs. Syrup 12 fl. ozs. M. Dose, 1 to 2 teaspoonfuls, as a vehicle for quinine, &c.

ZINCI BROMIDUM.

Characters.—A white granular powder, very deliquescent, odorless, having a sharp, saline and metallic taste, and a neutral reaction. Very soluble in water and in alcohol.

Therapeutical properties.—It has tonic and antispasmodic properties. It is useful in *Ovarian* irritation. Mons. Charcot has obtained very satisfactory results, by the administration of pills each containing $\frac{3}{4}$ gr. of Bromide of Zinc in *Epilepsy*; commencing with one pill daily dose may be gradually increased.

Dose.—3 to 10 grs.

ZINCI CYANIDUM.

Characters.—A white insoluble powder.

Therapeutical properties.—It resembles *Digitalis* in its action. It is a remedy for palpitation and pain in the region of the heart, with want of proper rhythm, both when valvular disease is present and when the symptoms depend upon some neurosis. In such cases it is given in doses of $\frac{1}{10}$ to $\frac{1}{8}$ gr. t. i. d.

Dose.— $\frac{1}{10}$ to 1 gr.

ZINCI LACTAS.

Characters.—White crystalline pieces, soluble in water.

Therapeutical properties.—It is a tonic and antispasmodic, and is said to be more easily digested than other preparations of zinc, and has therefore been recommended as preferable in *Epilepsy*.

Dose.—2 to 10 grs.

ZINCI PHOSPHIDUM.

Characters.—Minutely crystalline, friable fragment, having a metallic lustre on the fractured surfaces, or a grayish-black powder, having a faint odour and taste of phosphorus, insoluble in water or

alcohol, but completely soluble in hydrochloric or sulphuric acids, with evolution of phosphoretted hydrogen.

Therapeutical properties.—It is an excellent brain and nerve tonic, and a valuable preparation for the administration of Phosphorus in Neuralgia and affections of the nervous system. It is beneficially administered in mental and physical debility resulting from over exertion, seminal losses, &c. It is useful in chronic hysterical affections.

Dose.— $\frac{1}{16}$ to $\frac{1}{4}$ or $\frac{1}{2}$ gr. usually in pill form.

ZINCI SALICYLAS.

Characters.—Salicylate of Zinc, prepared by acting upon hydrated oxide of zinc by salicylic acid, occurs in fine, white, very long, needle-shaped crystals, which have first a sweetish taste, which is soon followed by a styptic and bitter sensation on the palate; very soluble in water, also in alcohol and ether.

Therapeutical properties.—It forms a valuable astringent and antiseptic agent, and has given excellent results in certain kinds of Cancerous Ulcers. Has been used successfully as an injection, in Gonorrhœa, in the strength of $\frac{1}{2}$ to 1 per cent of the salt. It is preferable to Sulphate of Zinc as an astringent in Eye affections, and in other cases, since it combines with its astringent action the antiseptic properties of salicylic acid.

ZINCI SULPHOCARBOLAS.

Characters.—Colourless, transparent, tabular, efflorescent crystals; soluble in about twice their weight of rectified spirit or of water.

Therapeutical properties.—It has an astringent and antiseptic properties. It is now used extensively by laryngologists for Catarrhal affections of the throat. Two grains in two tablespoonfuls of water constitutes a solution of the strength usually employed. The solution may be used as a gargle or spray, or it may be applied with a probang direct. It is useful in some forms of *Septicæmia*. It is used as an injection of 2 or 3 grs. to 1 oz. of water, for Gonorrhœa and Leucorrhœa. It forms a valuable nasal douche in *Ozæna*.

Dose.—1 to 3 grs.

RARE ALKALOIDS, GLUCOSIDES, CHEMICALS, ETC.,
INCLUDING THE ACTIVE PRINCIPLES OF
MANY IMPORTANT DRUGS.

(As other more commonly used Alkaloids, Active Principles, Glucosides and Chemicals have already been described under drugs to which they respectively belong, the reader may, refer to them there, by means of *Index*).

ACETAL.



Syn.—Di-ethyl ether of ethylene.

Characters.—Pure Acetal is a colourless liquid, less mobile than Ether, with a peculiar agreeable odour and refreshing taste ; soluble in 18 parts of water.

Therapeutical properties.—It acts as a *Soporific*, and has been used with more or less success by several German authorities. It has no special advantages, and its unpleasant taste and smell, when impure, is likely to retard further trials.

Dose.—1 to 3 fl. drs.

ACETOPHENONE.



Syn.—Hypnone; Phenyl-Methyl-Acetone.

Characters.—A colourless or slightly yellowish oily liquid at ordinary temperatures, but crystallizing below 60° F. in white needles, with pungent taste and a peculiar smell, recalling oil of bitter almonds. Very slightly soluble in water, but easily soluble in alcohol, ether and oils.

Therapeutical properties.—As a hypnotic, it is effective in cases of simple *insomnia*, without pain, in doses of 3 mins. Dujardin Beaumetz thinks that in *alcoholic subjects* it acts better than Paraldehyde or Chloral ; but its effects are not constant, failing entirely in some cases. Subsequent experimenters have found it *nearly or totally inefficient*, producing gastric pain from its irritant effects upon

the gastric mucous membrane, and *affecting the blood injuriously*. It is useful in *nervous* affections.

Dose.—2 to 5 mins. in capsule or mucilage.

ACID AGARICINIC.

Therapeutical properties.—Like Agaricin, it is also very efficacious in night-sweats of Phthisis. As a rule a pill containing 1/7 gr. is sufficient and it should be given about 6 o'clock in the evening.

Dose.— $\frac{1}{3}$ to $\frac{3}{4}$ gr.

ACID TRICHLORACETICUM.



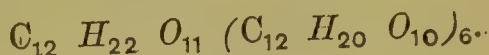
Characters.—Colourless, transparent rhomboidal crystals, with a slightly pungent smell and a corroding action to the tongue, freely soluble in alcohol and water; melts at 125.6° F. ; boils at 383° F. , giving off an aromatic smelling steam. The crystals are extremely hygroscopic.

Therapeutical properties.—It is an odourless antiseptic and is considered a prophylactic against Asiatic Cholera. For external use, its indications are the same as Chromic Acid. After applying it to a mucous membrane, a smooth, dry, ivory-coloured eschar forms, which adheres closely, does not set up inflammatory process in the vicinity, and is painless, except for a sense of burning lasting about one minute. The eschar falls off in from 2 to 6 days, leaving the surface beneath intact, so that a fresh application can be made if needed. Dr. H. A. Ehrmann uses a one per cent. solution of this acid in Glycerine, to which he previously adds one-half of one per cent. of Iodine and some Pot. Iodide. This is applied to the throat with a brush or swab, in cases of *Diffuse Pharyngitis*, *Pharyngitis Sicca* and *Follicular Tonsillitis*. Pure crystal can also be applied by means of a silver probe over a required spot. In the mouth and throat local anæsthesia is not needed. In the nose the application should be preceded by spraying in a little one per cent. Cocaine solution. It is also applied to *Warts and Corns*.

AMMON GLYCERRIZATE.

The sweet principle of Liquorice combined with Ammonia and used to mask the bitterness of Quinine and other nauseous drugs.

Dose.— $\frac{1}{4}$ to 1 gr.

AMYLODEXTRIN.

It is best prepared by allowing very dilute acids to act, in the cold, upon unbroken starch granules for a considerable period. It has a distinct crystalline form. It is quite distinct from *soluble starch*. This compound is probably formed in the stomach by the action of gastric juice upon various farinaceous foods, and it is not unlikely to play an important part in the process of nutrition. It peptonizes and digests with great ease and rapidity.

AMYL VALERIANATE.

Syn.—*Amylo-Valerianic Ether* ; *Apple Oil*.

Characters.—It is prepared by the action of Valerianic Acid upon Amylic Alcohol. Is a colourless, limpid (not oily) liquid, of neutral reaction. It is less volatile than Ether Sulphuric.

Physiological actions.—It has long been known that persons dwelling in rooms where large quantities of apples were stored, experienced sensations of headache, languor or presented sensations of cerebral congestion closely traceable to the absorption of active principle of the fruit. The essence, which has been found to be the Valerianic Ether of Amyl, is the active principle of the apple. It produces acceleration of pulse, warmth of the skin, perspiration, cephalalgia and restlessness. It is a nervous excitant.

Therapeutical properties.—It is a stimulant, antispasmodic, anodyne and hypnotic ether. It resembles Valerian in its action, but surpasses it in energy and rapidity, and besides it has anæsthetic properties. It is a tonic par excellence, raising rapidly the density of urine of Diabetes.

(1.) *Hypnotic*.—It produces sleep as well as Morphia and Chloral Hydrate. It acts as an hypnotic in doses far smaller than Chloral Hydrate without exerting any depressant action on the heart like the latter. Five grains are sufficient to produce tranquil sleep.

(2.) *Gastralgia, Hepatic and Nephritic Colic*.—It calms pains, spasms and colics. It is useful in *Gastralgia*, in doses of 4 to 6 capsules daily, each containing $2\frac{1}{2}$ drops, aided by milk regimen. It is the most powerful and least dangerous of all drugs employed in the treatment of *Hepatic Calculi*. It is useful in the pains of *Hepatic and Renal Colics*, in doses of 2 to 3 capsules each containing $2\frac{1}{2}$ drops, repeating the dose every $\frac{1}{4}$ hr. till the pain ceases. After the colic has passed, give four capsules daily, 2 before dinner and supper. To guard stomach and avoid gastric irritation, milk to be given simultaneously with capsules.

(3.) *Flatulence, &c.*—The excitation it produces in the alimentary canal renders digestion easy and regular. It is useful in flatulent dyspepsia.

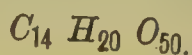
(4.) *Neuralgia and Rheumatism*.—In Neuralgia 2 capsules given every $\frac{1}{4}$ hr. till pain subsides, is useful. It is of great value in muscular rheumatism, but not in articular rheumatism.

(5.) *Dysmenorrhœa*.—The pains of Dysmenorrhœa are instantly calmed by it, the *flux being provoked*. Here 6 capsules should be given daily, 2 before dinner, 2 before supper, and 2 before retiring.

(6.) *Dyspnœa*.—It is found useful in these cases after failure even of Sulphuric Ether and fumigations of Nitre, in doses of 4 to 8 capsules daily.

Dose.—2 to 5 mins.

ANTIARINE.



Antiarine is one of the three active principles contained in the milky juice of *Antiaris Toxicaria*, used as arrow-poison in the East Indian Archipelago. It occurs as small rhombic crystals. Dogs and rabbits are killed in a few minutes by a dose of $\frac{1}{2}$ milligramme injected into the blood. It acts on the myocardium of the heart.

ANTISEPSIN.

Syn.—*Paramonobrom-Acetanilid.*

Therapeutical properties.—One great advantage Antisepsin possesses over many other antiseptics is an entire freedom from smell. Dr. Cattani finds that antisepsin in doses of five-sixth of a grain four times a day reduces the temperature of *phthisis*—especially when it is higher than 102°—one or two degrees, slowing the pulse at the same time, but not the respiration. It acts similarly in *typhus* and *typhoid fever*. In *pneumonia* it is liable to produce a good deal of *cyanosis* which, if alarming, should be treated by the *inhilation of oxygen*. In *neuralgia* it acts similarly to *antipyrin* and *antifebrin*. It would appear, however, that the most important use to which antisepsin can be put is to apply it to *wounds and ulcers*. Under a transparent but impermeable coating of antisepsin wounds heal and cicatrize in a surprising manner. It has also proved useful in *hæmorrhoids and anal lesions*. For this purpose suppositories are used containing a $\frac{1}{2}$ per cent. of the drug.

ANTISEPTOL.

Syn.—*Iodosulphate of Cinchonine.*

It is obtained by adding Iodine to an aqueous solution of Iodide of Potassium in a solution of Sulphate of Cinchonine. It is a light impalpable powder of a brownish colour, odourless, insoluble in water, but soluble in alcohol and chloroform. It has same properties as Iodoform.

ANTITHERMIN.

A new synthetical preparation, introduced as an *Antipyretic*, but as it causes stomach pains is not much used.

Dose.—8 grs. for an adult.

ARBUTIN.

A white crystalline glucoside obtained from Bearberry leaves (*Arctostaphylos Uva-Ursi*) and other Ericaceous plants. It is freely soluble in water, less so in alcohol. It is non-poisonous and

possesses *diuretic* properties. It acts as an *astringent* and *tonic* over the mucous membrane of the urinary passages. It is very valuable in *Chronic Cystitis and Inflammatory Catarrh of the Bladder*.

Dose.—5 to 30 grs.

ARGENTI PHOSPHAS (*Tribasic.*)

The tribasic phosphate of silver has been given for months by Dr. Hamilton in doses varying from $\frac{1}{3}$ to $\frac{1}{2}$ gr. *without any skin discoloration* whatever, and its administration is *unattended by the gastric irritability* that so often follows the use of either the Nitrate of Silver or the Phosphide of Zinc. At the same time its therapeutical effects are much more pronounced. In six cases of *inveterate Epilepsy*, as the result of gross inflammatory intracranial changes the patients have been relieved, judging from the diminution of the number of the attacks. It is also recommended in other *nervous* diseases.

Dose.— $\frac{1}{6}$ to $\frac{1}{2}$ gr. in pill form.

ARISTOL.

Syn.—*Iodide of Thymol*.

Characters.—Aristol, prepared from a solution of Iodine in Iodide of Potassium and an alkaline solution of Thymol, is an amorphous reddish-yellow or reddish-brown powder, without the least odour; insoluble in water, alcohol and glycerine, but readily soluble in ether and fixed oils. It is necessary to keep aristol in a dark glass bottle, as it is easily acted on by light.

Therapeutical properties.—It is a valuable, inodorous, and non-toxic antiseptic remedy said to be superior to Iodoform, Iodole, and Sozo-Iodole. It is not poisonous, as it is not absorbed by the system and appears destined to replace Iodoform with advantage in many cases.

(1.) *Syphilis.*—It was successful in a case of *Chancre* as large as a silver ten-cent piece. It increases cicatrization in *tertiary Syphilitic Ulcerations*. A deep ulcerating *Gumma* of neck has been completely cured in 8 days with dressings of powdered Aristol and

with daily inunctions of Blue Ointment and the internal administration of 4 grms. of Pot. Iodide and then 6 grms. daily. (Dr. Vidal.)

(2.) *Skin Affections*.—(a.) *Psoriasis*: Here it is claimed to act upon the lesions after the manner of Pyrogallie Acid and Chrysarobin, while it possesses the advantage of not causing the same intense colouration of skin, or producing the symptoms of conjunctivitis like the latter (Lassar). (b.) In *Sycosis* it is quite as efficacious and at least as rapid and unirritating in its action as other remedies. (c.) It is used in cases of *Trichophytina Capillitii*, *Scabies*, *Herpes Tonsurans*, *Eczema*, *Lupus*, &c. It is applied to the skin in form of 10 per cent ointment and covered with gutta percha.

(3.) *Ulcerations*.—Brocq extols the cicatrizing properties of Aristol, applied in powder, in various ulcerations of the skin, such as *Syphilitic*, *Scrofulous* and *Epitheliomatous*. The application has advantages over Iodoform in being less irritating and free from odour. It was successful in two cases of *Epithelioma* of the skin (Dr. Vidal). It is useful in *local tuberculosis of the ulcerating variety* and in *scrofulo-tuberculous ulcerations*. It is useful in *ulcerating Lupus* of the face.

(4.) *Ozæna*.—It is strongly recommended by Dr. Löwenstein in *Ozæna*. He gives several cases in which this remedy proved more efficacious than any other. In one case the patient, who had previously been treated with Iodoform, would have been discharged from his employment on account of the smell of the drug; aristol was then employed with the most satisfactory results, the fetor vanishing, the ulcerations healing, and the scabby crusts ceasing to form. Dr. Löwenstein makes use of insufflations, which answer very well, as aristol is a fine powder. He also paints ulcerated spots with a mixture of 1 part of aristol in 10 parts of flexile collodion.

(5.) Its lightness renders it valuable as a dusting powder for *Wounds and Burns*.

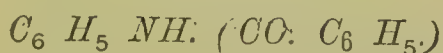
ASEPTOL.

Syn.—*Sulpho-Carbol*; *Orthophenol Sulphonic Acid*; *Sozolic Acid*.

Aseptol, prepared by acting upon phenol by sulphuric acid, is an heavy liquid, having a sp. gr. of 1.15 to 1.16; soluble in

water, alcohol and glycerine in all proportions. The solution as found in commerce contains $33\frac{1}{3}$ per cent. It is used as a substitute for Carbolic and Salicylic Acids, having properties similar to them but stronger. It is a *powerful antiseptic*, and is recommended on account of its non-poisonous nature in *severe Surgical Operations*. Being only slightly caustic, and not destroying fine tissues, it may be used by oculists in the form of a dilute solution.

BENZANILIDE.



It is homologous with Acetanilide. Kahn speaks highly of its powers in reducing temperature, as being superior to those of similar compounds, febrile heat being rapidly lowered by small doses of Benzanilide, which, however, is said to be safe even in comparatively large ones. The temperature falls several degrees in less than an hour when only 3 grains have been administered.

BENZOL.

A volatile liquid obtained from coal tar. It is recommended for *Whooping Cough* as lessening the expectoration and diminishing the spasmodic cough in the following formula :—

R Benzol Pur. mins. 32, Glycerini Par. oz. $1\frac{1}{2}$, Ol. Menth.

Pip. 10 mins., Syr. Mori oz. $\frac{1}{2}$ M. Dose 1 to 2 fl. drs.

Dose.—1 to 5 mins. in the form of glycerole.

BENZYL TROPINE.

A new local anæsthetic derived from Tropine and Benzoic Acid. It has no irritant action on the mucous membrane, nor does it cause any burning sensation when applied to the eyes. It is less powerful than Cocaine.

BISMUTH SUB-BENZOAS.

This compound is described as being made by heating nitrate of bismuth with potassium nitrate and sodium benzoate. The precipitate, sub-benzoate of bismuth, is collected on a filter, washed

with water and alcohol, and dried. Dr. E. Finger has used it as a topical application in sixteen cases of *soft chancre*. Some tingling sensations follow its application, but these are not severe. Six or eight applications were sufficient to secure a healthy surface, the dressing being made twice in 24 hours. Dr. Finger seems to consider the sub-benzoate a valuable substitute for Iodoform, and the more violent cauterizing drugs where they are contraindicated.

BOROGLYCERIDE.

It is prepared from Glycerine and Boracic Acid. It is an useful antiseptic in surgical dressings and is used as a preservative for foods, provisions, &c.

BOROPHENOL.

A combination of Borax and Carbolic Acid, used for antiseptic and disinfecting purposes. It is completely soluble in water and is applicable in cases where Carbolic Acid is used. It contains 50 per cent. of pure Carbolic Acid.

CADMIUM SULPHATE.

It resembles Sulphate of Zinc in its action, but is more powerful. Is a local astringent in *Conjunctivitis*, *Ulcers*, *Opacities of the Cornea*, *Gleet*, &c.

CHLORAL CYANHYDRAS.

It forms colourless crystals readily soluble in water or alcohol, and remaining unaltered for a long time. It is prepared as a substitute for Hydrocyanic Acid, Cherry-Laurel Water, &c., on account of their uncertain strength.

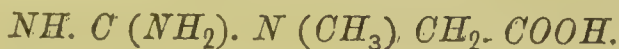
Dose.—Ordinary dose is $\frac{1}{4}$ to $\frac{1}{2}$ gr., equivalent to about 2 to 4 mins. of P. B. acid.

COUMARIN.

A neutral crystalline principle obtained from Tonquin Beans (*Coumaruma Odorata*) and other plants. It is also synthetically

prepared from Salicylic Aldehyd. Owing to its agreeable odour it is used to disguise the odour of Iodoform, 2 p. c. of Coumarin being sufficient for that purpose.

CREATINE.



Syn.—*Methyl-Glycocamine.*

Characters.—An alkaloidal principle of flesh. Cold water dissolves it to the extent of about 1.42 per cent, but its solubility is greatly increased by various albumenoids, salines and dilute acids, although alcohol, even when weak tends to render it more difficult of solution.

Therapeutical properties.—It is the true active principle, or, at all events, by far the most important constituent of Liebig's and other extracts of meat, the value of which as *cardiac and gastric restoratives*, and *nervo-muscular excitants*, depends almost entirely upon the proportion of creatine they contain. A drop or two of solution of creatine containing as little as 1/2000 of that principle, will resuscitate the action of a frog's heart, which has been first rendered feeble by fatigue and then *killed* with chloride of sodium (T. Mays). Given, *per se*, as a tonic and antipyretic, it would often prove of great benefit. The action of creatine has been studied lately by Kobert, who tells us that it is of considerable value in cases of *Gastric Debility*, *feebleness of the heart &c.*, and as a *muscular stimulant in general*. He recommends from 4 to 6 doses of a decigramme—about 1½ gr.—each daily.

CURARA.

Syn.—*Curare; Ourari; Wourali, Worara &c.*

A blackish brittle extract, resinoid in appearance but almost freely soluble in water. It is the South American arrow-poison obtained from various species of *Strychnos* and other plants. It causes muscular Paralysis and is a powerful antispasmodic. In *Tetanus*, as much as 4 grs. may be given hypodermically to an adult in 24 hours. It is beneficial in *Hydrophobia* in doses of ⅓ to ½ gr. every

half hour. It is useful in *Epilepsy* and other severe convulsive affections.

Dose.— $1/20$ to $\frac{1}{2}$ gr.

Inj. Curare Hypod. B. P. C. Strength 5 grs. in dr. 1.

Dose: 1 to 6 ms.

DISINFECTOL.

Characters.—An oily blackish liquid, containing resinous soaps, and soda, compounds of phenols dissolved in hydrocarbons. It mixes readily with water, forming an emulsion.

Therapeutical properties.—Disinfectol, which has been under this name introduced by Löwenstein into commerce, has recently been examined by Dr. Beselin as to its capacity for *destroying bacteria*. It was found that a 5 per cent. emulsion destroyed the bacteria in an equal volume of *typhoid stools* in eighteen hours, while a 20 per cent. emulsion completely disinfected double its volume of similar stools in a quarter of an hour. Experiments were then made for the purpose of determining the disinfecting power of disinfectol as compared with that of other substances. A 5 per cent. emulsion was found to be as active as a 12 per cent. emulsion of creoline, a 5 per cent. solution of carbolic acid, or a corrosive sublimate solution of the strength of 2 in a 1000. A 10 per cent emulsion of disinfectol was as active as a 50 per cent solution of sulphuric acid. This new antiseptic has been employed in surgical practice with satisfactory results by Professor Gies and Dr. Roth. It is not caustic. Dr. Beselin has not gone into the question of possible toxic properties.

DIURETIN (*Knoll*).

Syn.—*Theobromin-Sodii Salicylas*.

Characters.—A white powder, sparingly soluble in water (about 1 in 1000), but which, when warmed, dissolves in about half its own weight of water, and remains in solution on cooling, but it has the disadvantage of undergoing changes rather rapidly unless kept in well-stoppered bottles. It contains 50 per cent of theobromine.

Therapeutical properties.—Theobromine, which is nearly allied to Caffiene, and like it, a diuretic, has several advantages. (1.) Theobromine is a diuretic, with *direct action on the kidney*—a pure kidney remedy. (2.) It differs from Caffiene in *not exciting the central nervous system*, therefore, it does *not cause wakefulness, mental excitement or restlessness*, as Caffiene does. Free Theobromine is unsuitable for internal administration, it being so sparingly soluble, and, moreover, is said to excite nausea. Therefore the best soluble form is found to be *Sodio-Salicylate of Theobromine*, otherwise called *Diuretin (Knoll)*, which causes no unpleasant symptoms, even in very weak people. Diuretin is a *powerful renal stimulant*, more certain in its action than *Digitalis* or *Adonidin*. It has caused free diuresis in many cases of Dropsy associated with disease of the heart or the kidneys, even in cases where *Digitalis* and *Strophanthus* were useless. It is of especial value when it is desired to promote diuresis in many cases of *Dropsy with cardiac complications* without influencing the heart's actions. (Drs. Shroeder and Gram).

Dose.—Usual dose is 15 grs. to be repeated as often as every 4 hours until its full diuretic action is established. 90 grs. per day.

GUAIACOL.



Syn.—Methyl ether of Pyrocatechin.

Characters.—A colourless liquid having a taste and odour similar to, but more agreeable than, Creasote. It is only slightly soluble in water, but is freely so in alcohol, ether, oils and fats. It should be kept in dark bottles protected from the lights.

Therapeutical properties.—It is used as a substitute for Creasote in *Phthisis*. Dr. Sahli found it had a marked effect in lessening the cough, rendering the expectoration easier, frequently diminishing the secretion, and improving the appetite and general condition of the patient. It may be given in Cod-Liver Oil, which disguises the taste. It is also employed in the following formulæ :—

(a.)—R Guaiacol 1 part, Sp. Rect. 20 parts, Aquæ 180 parts. M.
1 to 4 drs. in water, twice or thrice a day, after meals.

(*b.*)—R Guaiacol parts 13½, Tr. Gent. Co. 30 parts, Rect. Sp. 250 parts, Sherry ad 1000 parts. M. Two teaspoonfuls.

Doses.—Guaicol, ½ te 2 mins.

HYDRARGYRI FORMAMIDIS.

Dr. Vishogrod has treated 212 cases of *syphilitic condylomata* with remarkable success by injections, repeated every three or four days, of a 1 per cent solution of formamide of mercury. Fifteen minims were inserted under the skin of the back, the seat of puncture being covered afterwards with a mercurial plaster. On the days when the injections were administered the patients were given a warm bath. In no case were indurations or abscesses produced by the injections. In only seventeen cases did any return of the syphilitic manifestations occur. (*Vide* Page 332).

HYPNAL.

Syn.—*Tri-Chloral-Dehyde-Phenyl-Dimethyl pyrazol.*

Characters.—It is obtained in the form of crystals, by dissolving separately in the smallest possible quantity of water equal parts of Chloral Hydrate and Antipyrin, and then mixing the solutions. It has neither the disagreeable taste of Antipyrin, the causticity of Chloral Hydrate nor the irritating effects upon the stomach of its two constituents.

Therapeutical properties.—It is a very active body, which possesses at the same time the *sedative and hypnotic* properties of its constituents. It acts favourably in doses of one gramme only, and in 22 cases, where it was administered, sleep was obtained with facility. Hypnal is especially useful in *Insomnia*, caused by pain and cough. It can be easily taken, especially by children, and it presents other advantages in consequence of the absence of taste. (Dr. Bardet).

INULIN.

A peculiar body allied to starch and obtained from the root of *Inula Helenium* (Elecampagne), which also contains a stearoptene called Helenin already described at page 323. It is aromatic, stimulant

tonic and expectorant. It is used in Chronic Pulmonary Affections, Dyspepsia, &c.

Dose.—1 to 3 grs.

ISAPIOL.

Isapiol, as the name implies, is considered to be isomeric with Apiol, and is easily prepared by boiling the latter for some time with an alcoholic solution (7 to 10 per cent.) of hydrate of potassium. It differs from the foregoing in many important respects, since the crystals are no longer acicular, isapiol separating from its alcoholic solutions in large scales, or plates, of which the fusing point is 55° to 56° C.

Physiologically isapiol *acts directly upon the vaso-motor system, and as a cardiac excitant* it has of late proved useful in several instances. It is suggested as likely to be valuable in cases of *angina pectoris*. From two to six grains may apparently be given without fear of ulterior mischief. Isapiol certainly greatly discounts the toxic, although not the diuretic action of strophanthin and hence may perhaps sometimes be useful in modifying the action of strophanthus.

LUCUMIN.

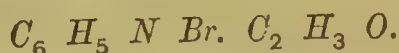
It is the name given to a very bitter principle extracted from the seeds of *Lucuma Fainuto* and other species. In doses of 1 to 1½ grs. it is a valuable *tonic*; in *diarrhœa* and allied affections 2½ grs. is the dose, administered every alternate hour, and (at similar intervals) in quantities of 3 to 8 grs. lucumin is extremely useful in the *treatment of intermittent fevers*.

METHYLENE BLUE.

Professor Ehrlich and Dr. Lippmann have found that methylene blue, when perfectly free from chloride of zinc and all other impurities, is a valuable and *safe remedy for relieving pain* of various kinds. They have given as much as fifteen grains in the day in gelatine capsules without producing any toxic symptoms. The usual doses were from a grain and a half to four grains internally, and one grain hypodermically. The remedy was employed in twenty-five cases of *painful nervous*

affections, and rheumatism of the muscles, tendons, and joints, and in every case it proved more or less efficacious. In two cases of migraine, also, it was very successful. In many ways this substance appears to act similarly to antipyrin, over which it has the advantage of cheapness, and of the hypodermic injection being painless.

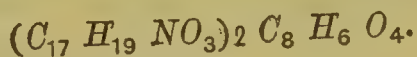
MONOBROMACETANILIDE.



A very beautiful preparation, crystallizing in brilliant silky needles, which are devoid of taste. It has been recently introduced as an antipyretic. *Its antipyretic power is much greater than that of other antipyretics.* To produce a given effect in lowering the temperature a smaller dose answers, as compared with other antipyretics. It does not produce nausea, and appears to possess some action upon *Neuralgia of the fifth pair of cranial nerves*, resembling that *Gelsemine* without the disadvantages of the latter. In cases of *Neuralgia* it may be given in 1 to 2 gr. doses every 3 hours.

Dose.—1 to 8 grs. as an antipyretic.

MORPHINÆ PHTHALAS.



Syn.—*Morphine with Naphthalic Acid.*

It is now employed with very great success for hypod. injection, as well as for internal administration. It contains 77 p. c. of alkaloid, and can be obtained in 20 p. c. solution, or even a stronger one. It is therefore 3 times as soluble as the sulphate, and five times as the hydrochlorate, of the organic base. Its solutions are much less liable to decompose than the ordinary morphine salts are, and being practically amorphous and most conveniently prepared in the scale form, phthalate of morphine is not likely to be mistaken for a quinine salt is dispensing.

MORRHUOL.

Syn.—*Morrhuline*.

Characters.—Morrhuel, the active principle extracted from Cod Liver Oil by treatment with alcohol, is a non-volatile liquid (base), lighter than water, fluid at ordinary temperatures, and contains the combination of Phosphorus, Bromine, and Iodine, as found in the oil. Although Cod Liver Oil is stated to contain five other bases, Morrhuel represents about two-thirds of the total constituents of the alkaloidal kind. 4 parts of Morrhuel represent 100 parts of Oil.

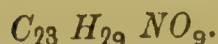
Therapeutical properties.—Recent researches tend to show that, apart from the fatty matter pure and simple, which is inert (except as a food of the heat-producing kind), Morrhuel is the curative active principle of Cod Liver Oil. Under its influence, coughs, night-sweats and hæmoptysis are promptly arrested and appetite restored, and better results are obtained than with any quantity of Cod-Liver Oil. It being free from oily matter, does not derange the stomach. It is employed in similar cases in which Cod Liver Oil has been prescribed and with better results. In addition to powerfully increasing the appetite it is claimed to be a most potent diaphoretic and diuretic. A quinea-pig weighing 240 grms. actually lost 13.5 grms. or about 1/18th of its weight, in two hours and a half after .029 grm. had been hypodermically injected (Gautier).

Dose.—It is best administered in capsules, each containing 3 grs., which represent more than one teaspoonful of the oil. 2 to 6 capsules per day.

MUSCARINÆ NITRAS.

A salt of the alkaloids found in poisonous mushrooms. It powerfully stimulates the salivary and cutaneous secretions like *Pilocarpine*. It is useful in *night sweats of phthisis* when given hypodermically. (26 cases of night sweating have been cured by giving hypod. five drops of a one per cent. solution of fl. ext. of *Agaricus Muscarius*.)

Dose.—Muscarine Nitrate or Sulphate, 1/6 to 1/2 gr. hypod.

NARCEINE.

An alkaloid of Opium, occurring in white, silky, acicular crystals. It produces *calm sleep*, does not interfere with the digestive organs.

Dose.— $\frac{1}{8}$ to $\frac{1}{4}$ gr.

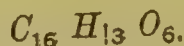
NARCOTINE.

An alkaloid obtained from opium. It occurs in white inodorous crystalline prisms. It is of great value in *Indian Ague*.

Dose.—1 to 3 grs.

NITROGEN BINOXIDE.

Most persons who have dabbled in electrical science are aware of the unpleasant fumes emanating from batteries containing nitric acid. These however are said by a Spanish Professor to be an admirable *preservative against Cholera*, it being noticed that none of the workmen employed in an electrotype establishment in Madrid where they were subjected to the fumes of the oxides of nitrogen died from cholera during the epidemic of 1834—1859 and 1865, and that only such of the workmen as were absent frequently from the factory were attacked at all. He has also ascertained that liquids from dead bodies on being treated with binoxide of nitrogen, none lose their peculiar smell and remain quite free from micro-organisms. A French naval surgeon has also made use of binoxide of nitrogen in 35 cases of Cholera with very satisfactory results.

OPHIOXYLIN.

It is an orange-coloured crystalline principle obtained from the root of the *Ophioxylon serpentinum* (or *Kauwolfia serpentina*, which is now the generally accepted name), an Apocynaceous shrub, the *Harkai* of Bombay, which has long had a native reputation as a febrifuge, and an antidote for snake bite and other poisons. It has

an acrid burning taste, is fairly soluble in alcohol, but its best solvents are benzene, chloroform, and bisulphide of carbon. Even in small doses it acts as an *Antipyretic* and *anthelmintic*.

OUABAIN.

Characters.—It is an alkaloid obtained from crystallisation from a watery extract of the roots of the *Ouabaio*, a plant nearly related to the *Carissa schimperi* and belonging to *Apocynaceæ*. It occurs in the form of rectangular crystals, which are white, transparent, colourless, and to a very slight degree bitter to the taste. It dissolves with difficulty in cold water, but much more readily in hot. Insoluble in chloroform and ether. It is best dissolved in strong alcohol.

Physiological actions.—It acts powerfully upon the respiratory centres. Prof Gley and Arnaud found that in a dog 1/975 gr. produced marked slowing of the respirations and a dose of 1/260 gr. completely stopped the respirations. 1/65 gr. introduced into the blood is said to be fatal to man. After subsequent trial with it upon patients it has been found that the pulse, temperature and respirations are slightly below normal and that respirations become very slow if drug is pushed. It promotes the actions of the skin, causing free perspiration. The total amount of urine passed is slightly increased. It has no cumulative action.

Therapeutical actions.—The juice of the Ouabain plant is used as an arrow poison by the Somalis in East Africa. Its active principle, Ouabain is suggested as a remedy for the treatment of *Asthma*, *Pertussis* and *Heart Diseases*, and as a substitute for *Digitalin* and *Strophanthin*. Dr. William Gammell has treated 49 cases of *Whooping cough*, of which 25 recovered, 4 died from different complications and the remainder are still under observation. Ouabain is of marked benefit in all stages of whooping cough, and if carefully used, produces gratifying results. In the first stage it cuts short the attack, in the second it reduces the violence and frequency of the cough, and diminishes the number of whoops, and, in the third, it hastens convalescence in a remarkable manner. It may be given alone dissolved in water, or in combination with Pot.

Brom. or Chloral Hydrate. The simplest way is to dissolve one grain of ouabain in distilled water, so that each minim of the solution shall be equal to 1/1000 gr. ouabain as: R. Sol. ouabain ms. 48, Syr. Aurantii drs. 4, Aquæ ad ozs. 6. M. Sig. A teaspoonful every 3 hrs. All the cases under review were treated in the above way. The appetite was improved in all the patients. In two of the cases under treatment, *sugar was present in the urine on admission. This began to diminish after treatment was commenced, and after 18—19 days of the treatment the urine was free from the slightest trace of sugar.*

Doses.—It should be given at first in doses not larger than 1/1000 gr. every 3 hrs; 1/125 gr. daily. For children under one year of age, the dose should not exceed 1/2000 gr. every 3 hrs. In children of from 6 to 12 years of age, if the cough be very violent, and the whoops are numerous, 1/500 gr. may be given at a dose, but the action of the drug must be carefully watched.

PARTHENINE.

It is obtained from *Parthenium Histerophorus* and is useful for *Neuralgias of a periodic type and Intermittent Fevers.* It is given in doses of 1 to 2 grs. every hour.

PEREIRINE.

It is an alkaloid obtained from the bark of the tree of *Pao-Pereiro* (*Pau-Pareira*), a native of Brazil, and belonging to *Apocynaceæ*. It is extensively used and highly valued throughout South America as a *substitute for Quinine*. This alkaloid is tonic, exercising no local irritant action when administered subcutaneously. It doubles the therapeutic activity of quinine, while at the same time prevents the untoward effects frequently produced when the latter (Quinine) is pushed. Pereirine according to Tibirica, has *no depressant action on the heart*. 10 grs. of Quinine with 10 grs. of Pereirine are equal (*in Malaria*) to 20 grs. of Quinine without the disadvantages of such a dose of the latter drug. He relates the case of an old woman, of 80, suffering from organic disease of the

heart and reduced almost to the last extremity of exhaustion by *Intermittent fever*; Quinine in considerable doses had no effect, but the temperature was brought down almost at once and appetite and strength returned when Quinine was combined with Pereirine. In several other cases same plan of treatment was found equally successful.

PHENYL-URETHAN.

A white crystalline powder obtained through the action of Chloride of Ethyl on Aniline. It possesses *antipyretic and analgesic properties*. A dose of $7\frac{1}{2}$ grs. is equal to 15 grs. of Antipyrine and produces a fall of temperature of from 2 to 5 degrees, which may be maintained for 4 to 8 hrs. The fall of temperature occurs within 20 to 40 minutes and is accompanied by no disagreeable after effects. As an analgesic its results do not seem to have such a success. Prof. Giacomini has employed it as an antipyretic in 70 different cases suffering from various febrile affections. It is best administered in Sherry Wine, which is said to prevent collapse, cyanosis, &c.

PIPERONAL.

Characters.—An aldehyde obtained as a product in the oxidation of Piperina. It occurs in small white prismatic scales having a strong odour resembling that of Vanilla. When placed on the tongue, produces a sensation analogous to, but more persistent than, that caused by Mint. When ignited the flame and smoke resemble the appearance of burning camphor. Insoluble in cold water but readily soluble in alcohol and ether.

Therapeutical properties.—It has both *antipyretic and antiseptic properties*. The antipyretic effect is *not most active or energetic*, yet it is sufficient in many cases. It is best given in 15 gr. doses, repeated every 2 hours, or 3 or 4 times a day. *However its antiseptic action is much more marked*. The untoward effects produced by it are dryness of the throat, nausea, and eructations.

Dose.—15 to 60 grs.

PODOPHYLLOTOXIN.

It has been recently found that Podophyllotoxin is the true active principle of Podophyllum Peltatum. It is more definite and reliable than the preparations hitherto employed. It is about twice as strong as Podophyllin.

Dose.— $1/16$ to $\frac{1}{2}$ gr.

POTASSIUM TELLURATE.

Tellurium has been known for some time to have a poisonous effect on dogs, producing vomiting and stupor, and tainting the breath for a considerable time with a garlic-like smell, and quite recently Dr. E. Neusser of Vienna has made trial of it in the form of tellurate of potassium as a remedy for phthisis, thinking it probable that such a substance might exert a bactericidal effect. He gave it in about fifty cases, and found that in by far the larger number one-third of a grain daily in the form of a pill was sufficient to arrest the night sweats, or at least to moderate them very perceptibly. In a few instances it was necessary to double this dose, and this was usually sufficient to bring about the desired result. No toxic symptoms were produced unless at least a grain was given daily for some considerable time, and then indigestion was set up. Of course the garlic-like smell which the breath always acquired was not very desirable, but it was not generally perceived by the patients themselves.

RICININ.

The poisonous principle of castor-seeds. Stillmark has separated this as an albuminoid body, occurring as a snow-white powder. It is a powerful poison and a remarkable coagulant of the blood. A minute quantity when absorbed, causes a coagulum which blocks the lumina of the intestinal capillaries and causes thrombosis and ecchymosis. Even when introduced, sub-cutaneously its principal action appears to occur in the intestinal canal, and not at the place of injection. A poisonous dose for a man weighing 60 kilos, is estimated at 0.18 grm. and this quantity is said to be contained

in the expressed cake from 3 grms. of pressed seeds. It is pointed out that the coagulating power of Castor seeds explains the external application of the crushed seeds as a hæmostatic.

SAL ALEMBROTH.

Syn.—*Ammonio-Mercuric Chloride.*

This chemical is rapidly superseding corrosive sublimate as an *antiseptic for surgical dressings and gynæcological uses*, as it does not combine with albumen so quickly as the pure sublimate, and consequently is not so irritating to superficial wounds. Three parts by weight are equivalent to two parts pure Perchloride of Mercury.

SOLANINE.

It is a peculiar glucosidal-alkaloid obtained from the young sprouts of potatoes, also from the parings of very young or very old potatoes (*Solanum tuberosum*), and other plants. Although itself scarcely taken up by water in appreciable quantity, its salts are freely soluble therein. It is a narcotic to the medulla oblongata, spinal cord and nerve trunks and a paralyzant to the terminal ends of motor and sensory nerves. It does not produce cerebral congestion and so may be given to aged and children. It has lately attracted some little attention as a *narcotic sedative*, and is useful whenever we have to combat excitement, spasm and pain. It seems to be specially indicated in most *neuralgic affections*, as *Sciatica, Trifacial Neuralgia, &c.*, since it has been found to give prompt relief in severe cases, when Antipyrin, Antifebrin, Quinine, Morphine and Gelsemium had entirely failed.

101 Members of a battalion of an infantry having partaken of meals consisting simply of potatoe's sprouts, which, as just mentioned, contain Solanine, had suffered from following symptoms: Headache, dilatation of the pupils, colic, diarrhœa, sweating, fever, epigastric pain, vertigo, nausea, thirst, troubles of vision and cramps. In these cases the average duration of indisposition was 4 to 5 days, although in some lasted somewhat longer, with persistence of the diarrhœa. As the cause of the affection was not recognized soon,

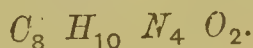
and the effects did not appear until 8 or 10 hours after the meal, it was too late for the evacuating medicine, and Ether and Laudanum were given, and the patients confined to a milk diet.

Modes of Administration and Doses.— $\frac{3}{4}$ to 5 grs. 3 or 4 times a day. Commonly prescribed in one gr. doses t. i. d. It may be given in capsules or hypodermically; also upon a denuded surface or by inunction with fats.

STENOCARPINE.

This is a new anæsthetic alkaloid extracted from the leaves of *Acacia Stenocarpus*. Two drops of a 2 per cent solution dropped into the eye produces complete insensibility of the part; 5 minutes after the application, the conjunctiva and cornea can be pricked, twisted or scraped without causing the least pain. *Mydriasis* sets in after 10 to 15 minutes and continues about 36 hours. It lessens tension of eyeball and so it is useful in Glaucoma. Local anæsthesia of any part of the skin can be produced in the same way.

THEINE.



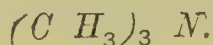
Characters.—Theine, the alkaloid of Tea, occurs in the form of beautiful silky prisms, soluble in water, alcohol and ether.

Therapeutical properties.—It possesses the power of producing anæsthesia in painful affections. Is useful in cases of *Neuralgia*, and is curative in pains in the extremities, pains of rheumatic origin, *Lumbago*, &c. It is useful in local pains and local spasms in *Locomotor Ataxy*. Is useful in pains incidental to *Carbuncles* and other inflammatory processes. Its action is limited to region below the seat of injection. Dr. J. K. Bauduy relates two cases of *Neuralgia* treated successfully with the hypodermic injection of Theine. A lady was suffering from *Sciatica*, in whom all the usual measures, including galvanism, had been tried without avail. $\frac{1}{4}$ gr. 1 of Merck's Theine, rapidly increasing the dose on successive days to $\frac{1}{2}$ gr. was injected with immediate and permanent relief. A relapse occurred in the other leg, which was cured by the injection.

tion of $\frac{1}{2}$ gr. In another case the patient suffered from Occipital and Supraorbital Neuralgia, which was cured by the injection of Theine into the arm. No unpleasant effects were noticed from its employment.

Dose.—1 to 5 grs. Hypodermically, $\frac{1}{4}$ to 1 gr.

TRIMETHYLAMINE.



Syn.—*Propylamine* ; *Secalin*.

Characters.—A compound Ammonia prepared from herring-brine. It is a colourless gas at ordinary temperatures, smelling strongly of rotten fish. It is readily absorbed by water, to which it imparts a strongly alkaline reaction. A solution containing 10 to 20 per cent has been used medicinally. Owing to its nauseous taste and smell, it is most suitably administered as a hydrochlorate.

TRIMETHYLAMINE HYDROCHLORATE.

Characters.—Long needle-shaped crystals, very deliquescent, inodorous and soluble in water and in alcohol.

Therapeutical properties.—Trimethylamine has been much used in France and Russia as a remedy for *acute rheumatism* ; the articular symptoms and the fever are said to be rapidly subdued by it, and the duration of the disease lessened.

Doses.—Trimethylamine, 4 to 8 mins. every 2 to 4 hours. May be given upto 60 mins. The disagreeable odour may be disguised by means of aromatics. Trimethyl Hydrochlorate, 3 to 10 grs. or more, freely diluted with water and flavoured with tr. aurantii.

ULEXINE.

Ulexine, an alkaloid obtained from the seeds of the common Furze (*Ulexine Europeus*), occurs in yellowish white crystals which are soluble in water. It has a powerful and widespread action, being a nerve and muscle poison, a respiratory poison, raising arterial tension and producing diuresis ; but the respiratory

action being produced by the smallest doses seems to be the most important. It is said to be a *more powerful diuretic than Sparteine*, and is employed with success in cases of *Dropsy* depending upon *heart diseases*. It is *antagonistic to Strychnine*.

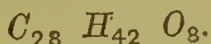
Dose.—1/20 to 1/5 gr. with caution,

URANIUM NITRATE.

It occurs in large tabular crystals of a bright yellow colour. Is employed with alleged success in the treatment of Diabetes Mellitus.

Dose.—1/6 to 1 gr.

URECHITIN.



A glucoside recently obtained from the *Urechites Suberecta*, a plant common in Jamaica and other West India Islands, and belonging to Apocynaceæ. It occurs in small brilliant acicular crystals, which are scarcely at all soluble in water, either hot or cold, but the minute proportion which is taken up at ordinary temperatures is sufficient to impart a powerfully bitter taste to the liquid, and to render it actively poisonous to small animals. 1/1500 gr. of Urechitin proved quickly fatal to a rabbit, the *heart action being paralysed* in a way which proves this glucoside to belong to a class of *cardiac poisons* of which *Digitalis* and *Strophanthus* may be taken as types. It is fully as *potent in slowing the pulse as Strophanthin*. The plant itself has been used in the West Indies as *an antidote to Curare*, and is also used as a local application in cases of snake-bites.

XYLOL.

A hydrocarbon obtained from Coal Tar Naphtha. Two to three minims per day has been prescribed with marked success in 315 cases of *Small Pox*.

Dose.—10 to 15 mins. Best taken with wine or syrup with peppermint water.

MAXIMUM DOSES OF SOME OF THE NEW AND RARE REMEDIES.

MEDICAMENT.	MAXIMUM ADULT DOSE, BY MOUTH.	
	<i>Single.</i>	<i>Daily.</i>
	Grains.	Grains.
Acid Carbazotic	2	5
„ Cubebic	15	75
„ Hydrobromic Dil. (10 per cent.) ...	50 drops.	150 drops.
„ Hydrofluoric Dil.	50 drops.	150 drops.
„ Per-osmic	$\frac{1}{4}$	$\frac{3}{4}$
„ Sclerotic	1	4
„ Valerianic	10 drops.	40 drops.
Adonidin	1/10	$\frac{1}{2}$
Agaricin	$\frac{1}{4}$	$\frac{3}{4}$
Allyl Tribromide	8 drops.	40 drops.
Aloin... ..	2	4
Amylene Hydrate	60 drops.	120 drops.
Anemonin	$\frac{1}{6}$	$\frac{3}{4}$
Antifebrin	15	45
Apiol	15 drops.	60 drops.
Apo-Codeine... ..	$\frac{1}{2}$	11
Apocynin	1	3
Apomorphine Hydrochlorate	$\frac{1}{6}$	$\frac{3}{4}$
Arbutin	15	60
Arsenic Bromide	1/12 to $\frac{1}{6}$	..
„ Iodide	1/24 gra- dually in- creased to $\frac{1}{8}$.	...
Asparagin	$1\frac{1}{2}$	$4\frac{1}{2}$
Aspidospermine Hydrochlorate	1/20	1/10
Baptisin	2	4
Bebeerine Sulphate	10	60
Benzene (Benzol)	15 drops.	90 drops.
Berberine Hydrochlorate	2	4
Boldoglucine or Boldin	$38\frac{1}{2}$	154
Brucina	1	5
Butyl-chloral Hydrate	15	60
Caffeine	5	15
Camphora Monobromata	$7\frac{1}{2}$	20
Cannabin Tannate	15	30
Cannabinon	$1\frac{1}{2}$	$4\frac{1}{2}$
Carbon Bisulphide	10 drops.	40 drops.
Carbon Trichloride	$7\frac{1}{2}$	30
Caulophyllin... ..	4	12
Cerium Oxalate	5	15

MEDICAMENT.	MAXIMUM ADULT DOSE, BY MOUTH.	
	<i>Single.</i>	<i>Daily.</i>
	Grains.	Grains.
Chaulmoogra Oil	20 drops	60 drops.
Chrysarobin	$\frac{1}{2}$	2
Cocaine Hydrochlorate	$1\frac{1}{2}$	$4\frac{1}{2}$
Colchicine	$\frac{1}{16}$	$\frac{1}{6}$
Colocynthin... ..	6	12
Conine Hydrobromate	$1\frac{1}{2}$	$4\frac{1}{4}$
Convallamarin	2	6
Cotoin	2	8
Daturine	$1/64$	$1/20$
Delphina	$\frac{1}{2}$	2
Duboisine	$1/64$	$1/20$
Erythropheine Hydrochlorate	$\frac{1}{6}$	$\frac{1}{2}$
Ethyl Bromide	20 drops.	...
Ethyl Iodide... ..	20 drops.	...
Ethyl-oxy-caffeine	10	30
Euonymine	5	15
Fl. Ext. Boldo	15 drops.	45 drops.
„ Cabbage-tree bark... ..	30 drops.	90 „
„ Cascara Amarga	60 „	150 „
„ „ Sagrada	60 „	150 „
„ Convallaria Maj.	10 „	30 „
„ Damiana	75 „	300 „
„ Grindelia Rob.	45 „	300 „
„ Hydrastis Can.	40 „	150 „
„ Kava-kava	40 „	120 „
„ Piscidia Erythrina... ..	75 „	225 „
Fuchsin... ..	4	$7\frac{1}{2}$
Gelseminine Hydrochlorate	$1/20$	$\frac{1}{4}$
Geranin	5	15
Guaiacol	2 drops.	$7\frac{1}{2}$ drops.
Hamamelin	2	6
Hasheesh	$1\frac{1}{2}$	$4\frac{1}{2}$
Helenin	2	8
Homatropine Hydrobromate or Sulphate	$1/20$	$1/5$
Hydrochinone	12	24
Hyoscine Hydrobromate	$1/64$	$1/20$
Hyosyamine Sulphate	$1/64$	$1/20$
Hypnone (Aceto-phenone)... ..	5 drops.	15 drops.
Ichthyol	10	30
Iodine Trichloride	$1/5$	$1\frac{1}{4}$
Iodol	3	12
Iridin	4	10
Juglandin	5	15

MEDICAMENT.	MAXIMUM ADULT DOSE, BY MOUTH.	
	<i>Single.</i>	<i>Daily.</i>
	Grains.	Grains.
Kairin	15	60
Leptandrin	2	6
Menthol	15	60
Mercur-Thymol Acetate	$\frac{1}{2}$	2
Mercury Bichloride (Peptonized)	$\frac{1}{2}$	$1\frac{1}{2}$
Mercury Cynide	$\frac{1}{4}$	$\frac{1}{2}$
Mercury Formadide	$\frac{1}{2}$	$1\frac{1}{2}$
Mercury Phenate (Carbolate)	$\frac{1}{2}$	$1\frac{1}{2}$
Mercury Salicylate	$\frac{1}{2}$	$1\frac{1}{2}$
Mercury Tannate	2	6
Methylal	60 drops.	90 drops.
Myricin	5	10
Naphthalene... ..	15	60
Naphthol Beta	15	45
Narcein	$\frac{1}{2}$	2
Nicotina	$\frac{1}{2}$	$1\frac{1}{2}$
Nitro-glycerine	1/64	1/12
Papain	8	20
Paraldehyde	60 drops.	...
Parthenicene	3	15
Pelletierine Sulphate or Tannate	10	...
Phenacetin	15	30
Picrotoxim	1/20	$\frac{1}{6}$
Piperine	9	18
Podophyllotoxin	$\frac{1}{3}$	1
Piridine	10 drops.	25 drops.
Quinoline Tartrate	15	30
Resorcine	45	120
Rumicin	5	15
Salicin	30	150
Salol	60	150
Sanguinarin	1	4
Scutellarin	5	15
Silver Cyanide,	1/12	$\frac{1}{3}$
„ Iodide	$\frac{1}{3}$	1
Solanine	$1\frac{1}{2}$	$7\frac{1}{2}$
Sparteine Sulphate	$\frac{1}{2}$	4
Strophanthin	1/120	1/60
Sulphonal	60	120
Terpin Hydrate	$4\frac{1}{2}$	15
Terpinol	5 drops.	15 drops.
Thalline Sulphate or Tartrate	8	24
Tincture Strophanthus	10 drops.	40 drops.

MEDICAMENT.	MAXIMUM ADULT DOSE, BY MOUTH.	
	<i>Single.</i>	<i>Daily.</i>
	Grains.	Grains.
Trimethylamine 10 to 20 per cent solution.	60 drops.	150 drops.
Trimethylamine Hydrachlorate	5	15
Uraninm Nitrate	5	15
Urethane	60 to 120	...
Veratrina	1/20	1/2
Zinci Lactas... ..	10	30

N.B.—The above are *maximum* doses for adults. As a rule in prescribing new remedies, medium doses should be given at first lest results not anticipated be obtained. The following are the rules for the graduation of the doses of powerful medicaments when administered to children and to the old :—

For Children.—The adult dose (being for persons between 21 and 60 years of age) is to be supposed divided into 21 equal parts, and the child's dose is to consist of as many of these parts as there are years in the child's age.—Ratio :—

$$\text{Child's dose} = \frac{\text{Adult dose} \times \text{child's years.}}{21}$$

(Thus, for instance, if the proper adult dose of a powerfully active substance were 7 grains, then a proper dose of the same for a child of 4 years would be : Grains 7 divided by 21 and multiplied by 4 ; or $\frac{\text{gr. vii.} \times 4}{21} = \frac{\text{gr. iv.}}{3}$ or one grain and one-third.)

Remarks.—For children it is usually considered advisable to reduce the doses of sedatives and hypnotics somewhat below what they would have to be by the above rule, and to increase the doses of laxatives and cathartics somewhat above what they would be by the rule.

For Aged Persons.—The proper adult dose (supposed to be intended for persons between the ages of 21 and 60) is usually to be lessened for persons above 60 years, on the following principle : The dose for the aged is equal to the regular adult dose multiplied by 60 and divided by the patient's age in years.

$$\text{Ratio :—Aged dose} = \frac{\text{Adult dose} \times 60}{\text{Patient's years}}$$

(Thus, for instance, if the proper adult dose of a powerful medicament were 40 drops, then the proper dose of the same for an aged person of 80 years would be : Drops 40 multiplied by 60 and divided by 80 ; or $\frac{\text{gtt. xxxx} \times 60}{80} = \text{gtt. xxx.}$; or thirty drops.)



PART II.



CONTENTS:

*Therapeutical classification of all the new
and old European, American, and
many Indian Remedies, both
officinal and non-officinal.*

*Treatment (Medicinal and Dietetic)
of all Diseases, including:*

*Dentistry, Dermatology, Hypodermic Medi-
cation, Incompatibles, Inhalations,
Obstetrics and Gynæcology,
Ophthalmology, Otology,
Pædiatrics, Toxicology,
Antiseptic Surgery,
&c., &c.*

ABBREVIATIONS.



E. for External.

F. for Formula or Number of Prescription.

I. for Internal.

Ind. for Indian.

P. for Powerful.

q. v. for quo vide.

In this part, the therapeutical classification of remedies, prescriptions and lists of remedies for the treatment of diseases, will serve as a guide to ready reference for busy practitioners, and as an aid to the memory. They may sometimes be subject to the discriminating judgment of the practitioners, there being such radical differences of opinion as to the merits of this or that remedy in the varying phases of the several diseases. The data here are all obtained from the experience and practice of highest medical authorities of Europe, America, India, &c. The treatment of every disease is generally described in the form of a number of prescriptions, of which, the most effective and specific, are placed foremost, and have, in most cases, the abbreviation "Sp." affixed to them. These prescriptions are followed by an alphabetical list of all the remedies useful in the treatment of the same disease, and the most effective and specific remedies in these lists are printed in *italics*. Similarly, the most effective and specific remedies in the therapeutical classification are printed in *italics*. Hence in prescribing for the treatment of a disease, preference may be given to those prescriptions that are placed foremost and those that have "Sp." affixed to them, and to those remedies, that are printed in *italics*. The perusal of the clinical therapeutics, reports, and cases relating to these remedies in the Part I., will also greatly assist the practitioner in selecting the proper remedies. For the clinical therapeutics, reports, preparations and doses of remedies mentioned in the lists, the reader must refer to the Part I. Again, for the ready reference and convenience of the practitioners, I have mentioned the number of page in case of those remedies to which reference in the Part I. is especially needed owing to their being either illustrated in the form of prescriptions, or described fully as to their uses in the treatment of diseases.

ABORTIFACIENTS.

Achyranth. Asp. (seeds), Acid Salicylic, Actæa Rac., *Anonæ Squamosa seeds, *Baptisia Tinct.*, Borax, Crotolaria Jun. (seeds), *Daucus Carota* (seeds), Ergota, *Euphorbia Res., *Gossypium Herbaceum*, Hydrargyrum, Jaborandi, *Lasiosiphon Sp. (stem), *Luffa Ecchinata* (seeds), Mistletoe, Morinda Citrif. (fruits), †*Moringa Pteryg.* (root-bark), *Nerium Odorum (root), Oil of Amber, Ophioxylon Serpent., Papaw seeds and juice, 541, Peganum Harmala (seeds), †*Plumbago Rosea* (root), *Plumeria Acum., Pyrethrum Indicum, Rue, *Santalum Alb. (seeds), Sassafras Oil 528, Savin, Pilocarpine, Sodæ Salicylas 19, *Ustilago Maidis*, &c.

ALTERATIVES.

Alnus Ser., Ammon. Chloride, *Ampelopsis Quin.*, Antimony, *Aralia Racemosa*, Arsenic, Asclepias Corn., Auri et Sod. Chl., Banana Rt., *Baptisia*, *Berberis Aquif.*, Bism. Subiod., Boldo, Bromum, Burdock, Cadmium, Calc. Chloride, Calc. Sulphide, Calotrop. Gig., Caroba, *Cascara Amarga*, Cassia Tora, Celastrus Scan., Chaulmoogra, Chicorium Int., *Chimaphila*, *Chionanthus Virg.*, *Clerodendron*, *Cocculus Cordif.*, Comptonia Asp., Copernica Cerif., Creasote, *Dicentra Can.*, Dulcamara, Elm bark, Ferri Benzoas, Ferri Iodide, *Friedrichshall Water*, *Fumaria Par.*, Galium Aparine, *Guaiacum*, Helianth. Can., Hemidesmus Ind., Helonias Dioc., Hydrarg., *Hydrastis*, *Hydrocotyle As.*, *Ichthyol*, Iodine, Iodoform, Iodol, *Iris Vers.*, Jaborandi, *Jatropha Macr.*, Jeffersonia D., *Juglans Cinerea*, *Juglans Nigra*, Jurubeba, Leptandra V., *Lycopersicon Esc.*, *Lycopus Eur.*, *Menisperm. Can.*, Mezereon, Myrica Cer., Nerium Odor., *Phytolacca Dec.*, Pix, Plantago Maj., Podophyllum, Polymonium Rep., Pongamia glab., Populus Trem., Poryhyra Lac., Prinos Vert., Pterocaulon, Pulsatilla, *Rumex Crisp.*, *Sambucus Nigra*, Sanguinaria, Sarsaparilla, Scrophularia Nod., Senecio Gracilis, *Siegesbeckia*, Silphium Lac., *Smilax Sarsa.*, *Stillingia Syl.*, Sulphur, Taraxacum, *Trifolium P.*, Triticum Repens, Vernonia Cin., *Xanthoxylum*.

* These are applied, either as a paste or pessary, to the os uteri.

† These are employed externally like the former, and are also administered internally.

ANÆSTHETICS.

By Inhalation.—*A. C. E. Mixture* (Alcohol 1 part, Chloroform 2, Ether 3), *Æther Sulph.* 27 to 28, *Ammoniated Chloroform* 170, *Amyl Nitrite*, *Carbonei Bisulphidum* 143, *Carbon Tetrachloride*, *Ethidine Bichloride* 254, *Ethyl Bromide* 255, *Ethyl Iodide*, *Iso-Butyl Nitris*, *Methylal* 496, *Methylene Bichloride*, *Nitrous Oxide Gas*.

Local—1 (Sp.) Dr. A. Dobisch of Zwittau has used, for the purpose of producing local anæsthesia, a spray, with Dr. Richardson's ether spray apparatus, composed of ten parts of *chloroform*, fifteen parts of *sulphuric ether*, and one part of *menthol*. After one minute's application of this spray complete anæsthesia of the skin and neighbouring tissues was obtained, which lasted for from two to six minutes, and sufficed for the performance of such minor operations as *opening abscesses of the cervical glands*, *incising a deeply seated whitlow*, and *the excision of an epithelioma of the nose*. In all the cases in which he employed the spray above-mentioned the wounds healed quite satisfactorily.

2. (Sp.) Tampons composed of cotton wool, surrounded by a layer of flock silk and then covered with thin silk, are saturated with Methyl Chloride, and applied to the parts by means of wooden or vulcanite holders. After contact for some seconds the part gets pale and anæmic and diminishes in sensitiveness: if the application be continued for a short time longer (a few seconds), the skin assumes a *white, dried, parchment like appearance*. *This is the time to operate*. If you proceed further superficial necrosis will result. It is employed in all kinds of small operations, as *circumcision*, *opening abscesses*, and in *neuralgia*, *lumbago*, *muscular pains*, *gout*, &c. In *scraping lupus* it is best applied by means of a camel hair brush, as special parts can then be anæsthetized with perfect precision. *Vide also Pg. 427.*

3. (Sp.) Dr. Govan, of New York, has successfully used *Aniline Oil* as a local anæsthetic when laying open whitlows and performing other minor operations. There was no pain, even when cutting down to the bone, if the finger had first been dipped for a short time into the oil.

4. According to Dr. Voituriez, local anæsthesia can be very easily produced by the simple, almost ever ready, means of causing two or three syphons of seltzer water to discharge their contents successively on the surface to be operated on. The anæsthesia, which is due, of course, to the carbonic acid contained in the seltzer water, lasts for about five minutes and then disappears.

5. Acid Hyperosmicum, *Amyl Hydride* 43, Antipyrin, Benzyl Tropine, Boldin, *Brucin* 119, Camph. Phenique, Carbon. Bisulphide 145, *Cocaine and its salts*, Erythrophlœine, ether spray 26, Gleditschia Triac., (its alkaloid), *Gymnema Sylvestre* (on the sense of taste, &c., 317), Helleborein 326, Hydrogen Peroxide, Iodol, *Kandol* 431, Kavaine 437, Lanoline 457, Menthol, Stenocarpine, Strophanthin, Theine.

ANALGESICS AND ANODYNES.

Aconitin 23, *Actæa R.*, Æther, Ammon. Chloride, Amyl Nitrite, *Amyl Valeriate*, Antifebrin 51, *Antipyrin* 58, Antisepsin, *Atropine*, Bellad., Bromides, *Butyl. Chloral H.*, Camphor, Cannabis, *Carbon Bisulphide* 144-45, *Castola Od.*, *Chloral Hydrate*, Chlorodyne, *Chloroform*, *Cocaine*, Coccus, Codeina, Conium, *Con. Hydrobrom.* 214, *Convallaria* 221, *Cynoglossum. Off.*, *Duboisia*, *Exalgine* 283, *Gelsemium*, *Gnaphalum P.*, *Hyoscyamine Hydrobrom.* 361, *Jamaica Dogwood* 415 and 421, *Lactuca*, *Lupulus*, *Menthol* 489, *Methacetin*, *Methylene Blue* 761, *Monobromacetanilid*, *Morphia*, *Mullein*, *Nitroglycerine*, *Nuphar Adv.*, *Opium*, *Phenacetin* 556, *Phenyl-Urethan*, *Pyrodine*, *Resorcine* 607, *Salol* 631, *Sodii Nitris*, *Strammonium*, *Viburnum Prun.*, *Scrophularia Nod.*

ANTAPHRODISIACS.

Alkalies, Antimony, *Bromides*, Caffeine, Camphor, *Camph. Monobrom.*, *Colchicum*, *Conium*, *Digitalis*, *Elaterium*, *Hyoscyamus*, *Hyoscine Hydrobrom.*, *Hyosc. Hydriod.*, Iodides, *Ipecac.*, *Nelumbium Speciosum*, *Opium*, *Pulsatilla*, *Salix Nigra* 626, *Sodii Salicylas*, *Rue*, Tobacco.

ANTEMETICS.

Acid Carbolic, A. Hydrobrom. D., A. Hydrocyan D., Acid Phosph. D., *Alpinia Off.*, *Azadiracta Ind.*, *Bellad.*, *Bismuth*, Calcium Chloride, *Calcis Liq.*, *Caryophyllum*, *Cerii Oxalas*, *Cerii Valer.*, *Chloral*, *Chloroform*, *Cocaine*, *Creasote*, *Cynodon Dact.*, *Glycerine* 303, *Ingluvin* 377-78, *Iodine* 383, *Kola Nut*, *Lodoicea Sey.*, *Magnesia*, *Menthol*, *Nux Vom.* 512, *Papain*, *Paraldehyde* 546, *Resorcine* 609.

Vide also Emesis.

ANTHELMINTICS.

Ascarides Lumbricoides (Round Worms).—*Abies Bals.*, *Absinthium*, *Adhatoda V.*, *Aletris F.*, *Allium Sat.*, *Aloes*, *Andira Iner.*, *Apocyn. Can.*, *Arbor Vitæ*, *Areca*, *Artemisia Arb.*, *Assa-fætida*, *Azadiracta Ind.*, *Balmory*, *Bhawchee*, *Bonducella* (leaves and seeds), *Butea Frond.*, *Cajeput*, *Calcis Liquor*, *Colomel*, *Calotrop. Gig.*, (root-bark), *Cambogia*, *Carica Papaya* (seeds and juice), *Caulophyllin*, *Chenopodium*, *Colocynth*, *Croton Oil*, *Delph. Staphisagria* (seeds), *Geoffroya Sur.*, *Helleborus N.*, *Holarrhen. Antid.* (seeds), *Iodoform* 390, *Inula Helenium*, *Iridin*, *Jalapa*, *Juglans Regia* (kernel), *Menyanthes*, *Mucuna*, *Naphthalin* 503, *Ophioxylin*, *Plocaria Halm.* (*Corsican Moss*), *Populus Scan.* (Balm of Gilead), *Prunus Persica* (Peach leaves), *Pyrethrum Ind.*, *Quassia*, *Rue*, *Sabadilla*, *Sabina*, *Santonine*, *Scammony*, *Sodium Chloride*, *Solvine*, *Spigelia Maryl.*, *Strychnos Col.*, *Tabacco*, *Tenacetum Vul.*, *Terebinthina*, *Vernonia Anthel.*, *Vernonia Cin.*, *Yerba Buena*, *Water Melon seeds*.

Tinea Solium (Tape Worm).—*Ailanthus Gland.*, *Areca nut* (69), *Chloroform* 169, *Cocoa nut* (Milk and Pulp of the whole nut taken in the morning), *Embelia Ribes* 241, *Filix Mas*, *Kamala*, *Koussou*, *Naphthalin*, *Pelletierine T.* 585, *Pomegranate root bark* 584, *Pumkin seeds*, *Solvine*, *Terebinthina*, *Persea Gratissima*.

Oxyuris Vermicularis (Thread Worms).—*Absinthium enema*, *Acid Carbolic*, *Aloes enema*, *Areca*, *Collinsonia Can. enema* 211, *Ferri Perchl.*, (diluted with water) *enema*, *Liq. Calcis enema*, *Mucuna*, *Ol. Morrhucæ enema*, *Ol. Olivæ enema*, *Quassia enema*, *Santonine*, *Scammony*, *Sodium Chloride enema*, *Spigelia*.

ANTHIDROTICS.

Acid Acetic, A. Agaricinic, A. Suphuric, A. Tannic, *Agaricin* 29, *Atropine* 83, *Belladonna*, *Coto* 227, *Crawley Root*, *Cupri Acet.*, *Duboisia*, *Ergotine* 249, *Eserine* 560-61, *Ferri Perchl.* 285, *Ferri Sulph.*, *Hamamelis*, *Homatropinæ Hydrobrom.*, *Hoang-Nan*, *Jaborandi* 403, *Logwood*, *Picrotoxin*, *Pot. Tellurate* 768, *Potentilla Can.* 576, *Pyrodine*, *Sulphonol* 697, *Zinc Oxide*.

Vide Hyperidrosis.

ANTIPERIODICS.

Aconitum Heteroph., *Alstonia Cons.* 40, *Alstonia Schol.* 237, *Andrograph. Pan.*, *Apiol*, *Beberinæ Sulph.*, *Bonducella* 107, *Carya Alba*, *Cedron*, *Cerasus Virg.*, *Clerodendron Inerme* 172, *Cocculus Cord.*, *coffee (green)*, *Cornus Florida*, *Erythrophlœum*, *Eucalyptus* 259, *Eucalyptine* 261, *Garrya Frum.*, *Gelsemium*, *Grindelia Squarrosa*, *Gardenia Gummif.*, *Helenine* 325, *Helleborus N.*, *Hollarh. Antidys. (bark)*, *Hydrastis* 343, *Iodine* 383, *Lantanine* 462, *Magnolia Glauca*, *Narcotine*, *Ostrya Virg.*, *Parthenine*, *Pereirine* 766, *Quinoidin* 601, *Quinoline* 603, *Ptelea Trif.*, *Sabbatia Can.*, and *S. Elliotii*, *Salix Nigra (bark)*, *Sierra Salvia* 658, *Strychnos Colub.*, *Sulphur*, *Yerbena Urticæfolia*, *Yerba Mansa*.

Vide Intermittent Fever.

ANTIPYRETICS.

Acid Anisic, *Alcohol*, *Antifebrin* 50, *Antipyrin* 57, *Antithermin*, *Aspidospermine* 591, *Benzanilid (P.)*, *Creasote* 228, *Hydracetin (P.)*, *Hydrochinon (P.)*, *Kairine (P.)*, *Methacetin* 495, *Monobromacetanilid* 762, *Ophioxylin*, *Phenacetin* 555, *Phenyl-Urethan*, *Piperonal*, *Pyrodine (P.)*, *Resorcine (P.)*, *Salicylates* 18, *Salol* 631, *Sodii Benzoas*, *Sodii Creosotinas*, *Sodii Sulphocarbolas*, *Thallin (P.)*, *Trimethylamine*.

ANTISCORBUTICS.

Apples, *Cascalea Odorata*, *Eupator. Ayapana*, *Goavas*, *Horse-radish*, *Limonis Succus*, *Lycopersicon Esc.*, *Mangifera Indica* 477,

Menyanthes, Oranges, Phytolacca Dec., Rumex Crispus, Sassafras Radix, Siegesbeckia O., Sissymbrium Irio.

ANTISEPTICS, DISINFECTANTS AND GERMICIDES.

Absinthium, Aceto-Tart. of Aluminium, Acid Anisic, A. Benzoic, A. Boracic, A. Camphoric, A. Carbolic, A. Chromic 10, A. Hydrochl., A. Hydrofluoric, A. Nitric, A. Pyrogallic, A. Salicylic, A. Sulphurous, A. Trichloroacetic 749, Adhatoda V., Æsculus Hip., Aluminii Acet., Antiseptin, Antiseptol, *Antiseptic Eau de Cologne* 645, Aseptol, Baptisin, B. Naphthol 97, *Betol*, Boro-glyceride, Boro-phenol, Calx Chlorinata, Carbo Anim., Carbo Lig., Cerevisia Fermenti, Chamomile Oil, *Chlorine*, *Chloroform* 167, Coffee, Creasote, *Creolin* 230, Disinfectol, Eserine 562, *Eucalyptus Oil* 263, Eucalyptol, Eugenia Chekan, Eulyptol, 265, Glycerine, *Helenine* 323-24, *Hydrarg. Iodic* 332, *Hydrarg. Perchl.*, Hydrastine, *Hydrochinon* 352, *Hydrogen Peroxide* 354, *Hydronaphthol*, Ichthyol 372, Iodate of Calcium, Iodine Trichloride, *Iodoform*, Iodol, Lycopersicon Esc., *Menthol*, Monobromacetanilid, Naphthalin 502, *Mercuric Cyanide* 493, Ol. Gaultheriæ, Ol. *Menthæ* 523, Ol. *Pini Pumilionis* 523, Pix Liquida, Piperonal, Pot. Chloras, Polygonum Acre, Pot. *Permang.*, Pot. Sulplas, *Quinoline Tartrate*, *Quinoline Salicylate* 604, *Resorcine* 605, Saccharine, *Sal Alembroth*, *Salol*, *Sanitas Oil* 640-41, *Sanitas Fluid* 646-47, Sodii Benzoas, Sodæ Chlorinatae Liq., Sodii Chloridum, *Sodii Fluosilicas*, Sodii Hyposulph., *Sodii Sulpho-Benz.*, Sodii Sulphocarb., *Thiocamph*, Thionaphthol, Thymole, Thymolate of Soda, Tobacco, Tribromophenol, *Trichlorophenol*, Zinci Chloridum, Teucruim Scor., Sozoiodol and its salts, Zinci Salicylas, Zinci Sulphocarbolas.

Vide Antiseptic Surgery.

ANTISPASMODICS.

Acid Hydrocyan. Dil., *Æther*, Allium Sat., *Allyl Tribromide*, Ammoniacum, Ammonia, Ammon. Valer., Amyl Nitrite, *Amyl-Valer.*, *Aniline*, Argenti Nitr., Asclep. Tuber., Assafoetida, Atropine, Belladonna, Benzoin, Cajeput Oil, Calendula Off., Camphor, Cannabis, Carui, Castanea Equina, Castoreum, Ceanothus Am., Cerasus Virg., Chenopod.

Anthel., *Chloral*, Chloral Cyanhydras, *Chloroform*, *Cocaine*, *Collinsonia*, Conium, Cotyledon Umb., Creasote, Crocus, Cupri Ammon. Sulph., Curara, *Cypripedium*, Delphinium Cons., *Dioscorea Vil.*, Ferri Valer., Galbanum, Galuin Alb., Heracleum L., Hyoseyamus, Jaborandi, Jeffersonia D., Lavandula, Leonurus Card., Lobelia, Lycopod. Cla., Mastiche, Melissa Off., *Menthol*, Mentha Pip., Mentha Vir., *Methylal*, Mistletoe, Moschus, Mullein, Olibanum, Opoponax, Pulsatilla, Rosemary, Resorcine, Rue, *Scutellaria Lat.*, *Sp. Ammon Fæt.*, Stannum, *Stramonium*, Styrax, *Sumbul*, *Symplocarp. Fætid.*, Terebinthina; Terpin, *Thymus Vulg.*, Valerian, Valerianates, *Viburn. Opulis*, *Viburn. Prun.*, Zinc Bromide, Zinc Oxide, Zinc Valerianate.

APHRODISIACS.

Aconitum Ferox, Allium Sat., *Aplotaxis Aur. (P.)*, Armoracia, Assa-fetida, Asteracantha L. (seeds), Belladonna, Borax, Cannabin Tannas, *Cantharis*, Capsicum, Castoreum, *Centaurea Behen (P.)*, Celastrus Pan., *Coca*, *Damiana (P.)*, Daronicum Scor., Ergotine, Galangal root, Ferrum, *Gossypium H.* (seeds), Juglans Reg. (kernel), Lini Semina, Mimusops Hexandra (fruits), *Moschus*, Mucuna Pr. seeds (P.), Nux Vom., Opium, *Pastinaca Sekakul*, Pedalium Murex, Phaseolus Rad., Phosphoras, *Pyrethrum Ind.*, *Sanguinaria*, Saw Palmetto, Serpentina, Sinapis, Staphisagria seeds, *Spermine 676*, *Stillingia*, Strychnia, Terebinthina, Tribulus Terr., *Tricholepis G. (flowers)*, Vanilla, Zinc Phosphide.

AROMATICS AND AROMATIC BITTERS.

Absinthium, Acid Sulph. Aro., Achillea Millif., Angelica, Anethum, Anisum, Anthemis, Aurantium, Calicanthus Fl., Canella, Capsicum, Cardamom, Caryophyllum, Cascarilla, Chirata, Cinnamon, Clove, Coriander, Cubeba, Cusparia, Drimys Winteri, Fennel, Gaultheria Proc., Gouania D., Helenium, Hyssopus Off., Inulin, Levisticum Off., Linderia Benzoin, Limonum, Lupuline, Mentha Pip., Mentha Vir., Myristica, Origanum, Osmorriza, Pimenta, Piper, Sassafras, Sinapis, Solidago Od., Zingiber.

ASTRINGENTS.

Acetum, Achillea M., Acid Acetic D., A. Benzoic, A. Carbolie, A. *Gallic*, A. Hydrochl. D., A. Nitric D., A. Phosph. D., A. Sulph. D., A. *Tannic*, Æsculus Hip., Alcohol, Alnus Ser., *Alumen*, Ampelop. Q., Anagallis, Areca, Argenti Nitr., Bayberry, Bela, Berberis Vul., Bistorta, Black Alder, Blackberry, Blueberry, *Bombax Mulb.*, Borax, Calmia Latif., Ceanothus, Cedron, Chimaphila, Cinchona, Cinnamon, Comptonia, Cornus Cir., Cornus Fl., Coto, Creasote, Cupri Sulph, Cynoglossum, Cyperus Rot., Dewberry, Diospyros V., Dita bark, *Dragon's Blood*, Epigæa Rep., Epilobium Ang., Epiphegus Virg., Equisetum, Erechthites H., Ergot, Erigeron Can., Eucalyptus, Eupator. Purp., *Ferri Alumen*, Ferri Perchl., *Ferri Pernitr.*, Ferri Sulph., Fraxinus Amb., Galium Ap., Gaultheria Proc., *Geranium Mac.*, Geum, Gossyp. Herbaceum, Granati Rad., Guava (unripe), Guarana, *Gum Rubrum*, Hæmotoxylum, Hamamelis, Helianthemum C., *Heuchera Am.*, Holarrhena (bark), Hypericum Per., Ichthyol, Jambul, *Judas tree*, kino, Krameria, Larix, Livervort, Lycopium V., *Mango (bark)*, Mangosteen (rind), Manzanita (leaves), Matico, Mitchellia Rep., Morinda Citr. (leaves), Newbouldia L., Nuphar A., *Penghawar Dj. Plantain (leaves)*, *Plumbi salts*, Polygonum Bist., Polymonium Rep., *Potentilla*, *Tor.*, Psidium Pyreferrum (bark), Quercus, Rhatany, *Rhus Gabra*, *Rhus Aro.*, Rosa, Rudbeckia L., Salix Nigra (bark), Salvia Off., Saraca Ind., Spiræa Tom., *Statice Brasil.*, *Statice Lim.*, Symphytum, Symphloc. Race., Tea, Trilium Erect, Tsuga Can, Turpentine, Ulmus, Urtica Dioica, *Uva Ursi*, Vaccinium Cras., *Vinca Major*, Zinc salts.

CARMINATIVES (STOMCHIC STIMULANTS).

Anethum, Anisum, Anthemis, Asclepias Tub., Assafoetid, Cajeput, Calamus, Capsicum, Carbo Ligni, Cardamom, Carui, Caryoph., Cascarilla, Cinnamon, Comptonia Asp., Coriander, Curcuma L., Embelia R., Ether, Fœniculum, Heracleum L., Horseradish, Hyssopus Off., Juniper, Lavand., Limon., Mentha Pip., Mentha Vir., Myristica, Nutmeg, Origanum, Osmorriza, Pimenta, Piper, Pyrethrum Par., Salix Nig. (bark), Satureia Hor., Sinapis, Sod. Choleate, Sod. Thymolate, Solidago Od., Valerian, Xanthoxylum, Yerba Buena. Zingiber.

Vide also Aromatics.

CATHARTICS.

Mild or Laxatives.—Apocyn. Andr., Bellad., Carthamus T., *Cascara Cagr.*, (*small doses*), *Cassia pulp*, *Castor Oil*, *Elaterii Pv. Co.*, *Euonymin*, *Eupator. Perfol.*, *Fel Bovis*, *Ficus*, *Glycerine*, *Glycerriza Pv. Co.*, *Horehound*, *Ipecac.*, *Hydrastin*, *Lycopers. Esc.*, *Leptandrin*, *Magn. Carb.*, *Manna*, *Mel*, *Menispermum C.*, *Mori Suc.*, *Nux vom.*, *Olive Oil*, *Pot. Citr.*, *Pot. Sulph.*, *Pot. Tart. Acida*, *Prunum*, *Prun. Perseca* (*Peach leaves*), *Rhamnus Frang.*, *Rheum*, *Rumex Crispus*, *Sapo*, *Senega*, *Sinapis*, *Sodii Phosph.*, *Soda Tartarata*, *Sulphur*, *Tamarind*, *Taraxacum*, *Viola Tricolor*.

Actively Aperient.—*Acid Cathartic*, *Aloes*, *Balmony*, *Baptisin*, *Burdock*, *Calotropis G.*, *Carlsbad Waters*, *Cascara Sagr. (full doses)*, *Cephalanthus*, *Chionanthus*, *Clitorea Ter.*, *Colchicum*, *Convallarin*, *Delphinium St.*, *Friedrichshall Water*, *Hunyadis Janos Water*, *Iridin*, *Jalap*, *Ipomœa Cer.*, *Jalapin*, *Juglans Cin.*, *Leptandrin*, *Magn. Sulph.*, *Mirabilis Jal.*, *Mauaca*, *Melia Azadiracta*, *Phytolacca*, *Podophyllum*, *Petroselinum*, *Sambuscus*, *Senna*, *Spigelia*, *Sodæ Sulph.*, *Stillingia*, *Terebinth*, *Victoria Water*.

Drastic or Hydragogue.—*Andira In.*, *Apocyn.*, *Can.*, *Baneberry*, *Bryonia Alb.*, *Calomel Triturates*, *Cambogia*, *Cevadilla*, *Chelidonium M.*, *Chiococca Ang.*, *Colocynth*, *Croton oil*, *Delphinium*, *Elaterium*, *Gillenia*, *Helleborus N.*, *Jatropha Curcas*, *Jatropha Macror.*, *Myrobolans*, *Podophyllin*, *Scammony*, *Thapsia Garg.*, *Veratria*.

Vide Constipation.

CAUSTICS, ESCHAROTICS, &c.

1. **An Improved Caustic Paste.**—Dry Flour 112 parts, Amylum 12, Zinc Chloride 110, Hydrarg. Perchl. 1, Iodol 10, Acid Carbol. cyst. 10, Croton Chloral 10, Camph. Bromide 10, are to be mixed in a mortar with sufficient quantity of distilled water to form a paste of a consistency of a putty. This paste will keep an indefinite length of time. Does not cause severe pain or set up any general reaction; the eschar is hard and well defined. It is also a powerful antiseptic and hæmostatic. Is not deliquescent. The

hands should be wetted on applying it and they are not in any danger of being acted on. The paste is allowed to remain for from 6 to 24 hours according to the amount of eschar which it is desired to form.

2. Acid Acet. Glacial, A. Arsenic, A. Carbolic, A. Chromic, A. Nitric, A. Trichloracetic (749), Alum. Sic., Antimony Chloride, Argenti Nitr., Bromine, Calcis Hydras, Creasote, Cupri Sulph., Hydr. Iod. Rubr., Hydr. Ox. Rubr., Hydr. Perchl., Hydr. Nitr., Acid Lactic, Iodine, Potassa Caust., Resorcine (612), Sanguinaria, Soda Caust., Sodii Ethylas, Zinc Chloride.

CHOLAGOGUES.

Acid Benzoic, A. Nitro-Mur. D., Ammon. Chloride, Artemisia Ind., Asteracantha (leaves), Baptisin, Barberry (leaves), Boldo, Borax, *Calotropis Gig.*, (root bark), *Carlsbad W.*, Chelidonium M., Chicorium Int., (seeds), Carthamus T., Coccus Cord., Colchicum, *Euonymin*, Fel. Bovin. Pur., Ferri Succinas, Ferri Picras, *Friedrichshall W.*, Gentiana Quinq., *Hunyadi Janos W.*, Hydr. Iodic, Hydr. Perchl., *Hydr. Subchl.*, *Hydrastis*, *Ipecac.*, *Iridin*, Jatamansi, Jatropha Macro., Juglans Cin., Jurubeba, Lawsonia Alba, *Leptandrin*, *Manaca*, *Manna*, *Morynga Pterygo.* (flowers), *Phytolacca*, Pot. Sulph., Rheum, Rubia Cord., *Sanguinaria*, *Scammony*, Senna, *Sodium Chloride*, *Sodii Sulph.*, Sod. Tartar., *Sodii Salicyl.*, *Stillingia*, *Taraxacum*.

DEMULCENTS, DILUENTS, &c.

Acacia Gum, Althæa, Amygdalum Dulc., Amylum, Avena, Borago Off., Castalia Od., Cetraria, Cetaceum, Chondrus Crisp., Coltsfoot, Cydonium, Cynoglossum Off., Epilobium, Ficus, Glycerine, Glycerriza, Hordeum, Ledum Latif., Lini Semina, Lycopodium, Malva Syl., Mel, Ol. Olivæ, Oxymel, Nuphar Ad., Osmunda Reg., Polygonatum Off., Pulmonaria Off., Saccharum, Sevum, Symphytum, Stigmata Maidis, Theriaca, Tragacanth, Triticum Rep., Tussilago, Ulmi cortex, Uva Ursi, Verbascum Thap., Viola Tricolor, Water-Melon juice and seeds, Yerba Santa.

DESICCANTS.

Alabaster (Ghabhan), Bole Armeniac, Calcis Carb., Calc. Hydras, Cimolite, Creta Prep., Kaolin, Kieselguhr, Lycopodium Cl., Magn. Carb., Plumbi Acet., Plumbi Carb., Quercus, Zinc Oxide.

DETERGENTS, DEOBSTRUENTS, DISCUTIENTS, RESOLVENTS, &c.

Absinthium, Apium Grav., Baycuru, Berberis Aris. (extract), Blumea Aurita, Beta Vul., Bryonia, Cadmium Oleate, Calamus, Calendula, Calotropis Gig. (milk), Chionanthus, Condurango, Corydalis F., Daronica Scorp., Digitalis, Fucus Vesic., Hamamelis, Iodides, Iodide of Barium, Iodized oil, Hydrarg. Oleate, Iodoform, Iodol, Jaborandi, Jasminum, Juglans N., Lanoline (457), Leptandrin, Morinda Citr., Menispermum, Moringa Pteryg., Phytolacca, Podophyllum, Papaw Juice, Pyrethrum Ind., Rubia Cord., Rumex Crisp., Sanguinaria, Solanum Dulcamara, Stillingia, Sozoiodol and its salts, Tricholep. Proc.

Vide Glandular Enlargements.

DIAPHORETICS OR SUDORIFICS.

Absinthium, Aconite, Actæa, Alcohol, Ammonia and its salts, Angelica, Antimony and its salts, Apocyn. Andros., Aralia R., Arnica, Asclepias Tub., Ausæna Tri., *Blumea Aur.*, Borage, Buchu, Burdock, Cajeput, Calendula, *Calosanthus Ind.*, Calotropis, Camphor, Capsicum, Carthamus, Celastrus, Chamomile, Chimaphila, Chionanthus, Chloroform, Colchicum, Contrajerva, *Corallorhiza Od.*, Cypripedium, Dioscorea V., Doveri P., Dulcamara, Elder flowers, Elephantopus, Eryngium Yuc., Ether, Ethyl Nitris, *Eupatorium Aya.*, *Eupatorium Perf.*, Euphorbia Cor., Gelsemium, Guaco, Guaiacum, Helianthelia, Helenium, Hemidesmus, Ipecac., *Jaborandi*, Jeffersonia, Lactuca, Lobelia, Melissa Off., Menispermum C., Meze-reum, *Momordica F.*, *Morrhaine*, Muscarine, Naregamia, Opium, Pennyroyal, Pimpinella Sax., Pot. Citr., Pot. Nitr., *Pilocarpine*, Polymonium R., *Resorcine*, Sabina, Sanguinaria, Salvia Off., Sarsa, Sassafras, Seneceo, Serpentaria, Silphium L., *Sierra Salvia*,

Simaruba, Senega, Sp. *Æther Nitr.*, *Stillingia*, Sulphar, Tenacetum, Terebinthina, Trilisa, Ulmus, Xanthoxylum, Yerbena Hast.

DIURETICS.

Abies Bals., Acid Benzoic, A. Citric, A. Phosph., *Alchemilla*, Alcohol, Aletris F., Alkaline Mineral Waters, Alkekengi, Ammon. Acet., Ammon Benz., *Ammon Fluoride* (41), *Apocyn. Can.* (65), *Aralia His.*, *Arenaria R.*, *Armoracia*, *Artichoke* (73), *Asparagus*, *Bellad.*, Borax, Buchu, Bryonia, Burdock, Cactus Grand., *Cantharis*, *Caroba*, *Carrot seeds* (wild), *Caulophyllin*, *Celastrus*, *Cephalanthus*, *Chamælorium*, *Chimaphila*, *Chiococca Ang.*, *Colchicum*, *Cocculus Cord.*, *Colocynth*, *Condurango*, *Copaiba*, *Corydalis*, *Cubebæ*, *Damiana*, *Delphinium Con.*, *Dicentra Can.*, Dew worms (dried), *Digitalis*, *Dulcamara*, Elder root, *Epigæa R.*, *Equisetum*, Ergot, *Erigeron Can.*, Ethyl Nitrite, Euonymin, Eupator. Purp., Ferrum Perchl., *Galium Apar.*, *Helenium*, *Helianthelia*, *Hemidesmus*, Horseradish, *Hydrang. Arb.*, Hydrarg. Iodic, *Hydrocotyle As.*, *Hypericum*. Iridin, *Jatamansi*, *Jeffersonia*, *Juglans C.*, Juniper, Jurubeba, Kava Kava, *Liatris Sp.*, Lithium salts, *Lycopodium Cl.*, Manaca, *Menispermum*, Mezereon, *Mitchella R.*, *Morrhurine*, Mullein, Nitro-glycerine, *Oenanthe Phel.*, *Orthosiphon*, *Oxydendron Arb.*, Pareira, *Parietaria*, *Petroselinum*, *Phylanthus N.*, Pichi, *Pimpinella Sax.*, *Plantago Maj.*, *Polytrichum J.*, *Populus Can.*, *Portulacca*, Potassium salts, *Prunus Pers.*, *Rhamni Suc.*, *Rumex Ac.*, *Rumex Cris.*, *Sarracenia Pur.*, Saw Palmetto, *Scilla*, *Scrophularia N.*, Seneceonin, Senega, *Scoparium*, Simaruba, Sodium salts, *Solidago Virga*, *Stillingia*, Sp. *Æther Nitr.*, Taraxacum, *Triticum Repens*, Terpinol, Terebinthina, Ulexine, Ulmus, *Urtica Diuret.*, Uva Ursi, *Vaccinium Cras.*, Yerva Santa, Water Melon juice and seeds.

Vide Albuminuria.

ECBOLICS.

Actæa Racemosa, Borax, Cinnamon, *Digitalis*, Ergot, Gossyp. Herbaceum, *Hydrastis Can.*, Mistletoe, Sabina, *Ustilago Maidis*.

EMETICS.

Abrus Precator. (root), *Acid Chrysophanic* 11, Alangium Lam. (root-bark), Alnus Serr., Alum (repeated doses), Andira bark 46, Anthemis 158, Antimony, Apocyn. Andros., Apocyn. Can., Apomorphia 67, Asarum Europæum, *Asclepias Curass.* 74, Asclep. Corn., Asimina Triloba, Baptisin, *Barringtonia Ac.*, (fruit), Bombax Mulb. (root-bark), Bryonia (fresh root), Calamus 130, Calotrop. Gig. (root-bark), Cassia Fist. (seeds), Cnicus Bened., *Cocillana* 202, *Comp. Vegetable Emetic* 396, Condurango, Convallaria Flowers, Crinum Asia. (root), Cupri Sulph., Delphinium Staph., Elder tree (fresh bark 75 grs.), *Emetine*, Erythrophleine, Eupatorium Perf. 271, Euphorbia Cor., Entada Pus. (seeds), Gillenia Trif, Hydrarg. Subsulph., Ilex Vomitoria, Ipecac, Iridin, Juglandin, Lagenaria Vul. (pulp), Luffa Amara (ripe seeds), Lobelia, Meadow Daffodil (Narcissus, 60 grs.), Melia Azedarach, Melon root (wild), *Naregamia Alata* 506, Phytolacca, Podophyllum, Pot. Bichrom., Randia Dument (fruit), Sabadilla, Sanguinaria, Scilla, Senega, Silphium Lac., Sinapis, *Sedum Acre* 654, Sod. Chloride, Stillingia 685, Strychnos Potator. (fruit 30 grs.), Tabacum, Tylophora Asth., Veratrum, Verbena Hast., Zinc. Sulph.

EMMENAGOGUES.

Acid Boricum, Actæa R., Aletris, Aloes, Ammon. Chloride, Angelica, Arbor Vitæ, *Asclepias Corn.*, Assafoetida, Beets, Bidens Bip., Blumea Aur., Borax, Bryonia, Calendula Off., Cambogia, Cantharis, Carbonei Bisulph., Castor, Caulophyllin, Chamomile, Chenopodium, Cinnamon, Coca, Colocynth. Cornus Fl., Cubebs, Damiana, Delphinium Cons., Ergot, Ferrum, Gossyp. Herb., Guaiacum, Helenium, *Hellebore*, *Helonias D.*, *Hydrarg. Iodic*, *Iodum*, Jasminum Od., Jatamansi, Leonurus C., Liatris Sp., Lupinus Al., Lycopod. Cl., Manaca, *Manganese Binoride* 473, Menyanthes, Morinda Citr., Myrrha, Nux Vom., Papaya juice and seeds, Pennyroyal, Phosphorus, Poinciana Pulch., Polygonum Acre, Pot. Bromide, Pot. Iodide, *Pot. Permang.* 550, *Pulsatilla*, Pyrethrum Par., Rubia Tin., Ruta, Sabina, Salicylate of Soda, Sanguinaria

Santonine, *Saturea* H., *Senecio* Gr., *Senega*, *Siegesbeckia*, *Tenacetum* V., *Thuja*, *Thymus* V., *Trigonella* Fœn., *Turpentine*, *Veratrum*, *Xanthoxylum*.

EMOLLIENTS.

Acacia gum, *Adeps*, *Bread*, *Amylum*, *Cera Alba*, *Cetacium*, *Collodion*, *Cydonium*, *Figs*, *Gelatine*, *Glycerine*, *Glyc. Amyli*, *Hordei* Dec., *Hibiscus Rosa-Sinensis* (flowers), *Honey*, *Isinglass*, *Lini* Dec., *Oatmeal*, *Ol. Amygdalæ*, *Ol. Lini*, *Ol. Olivæ*, *Ovi Vitelli*, *Paraffina* Dur., *Paraffina* Mol., *Sapo* Mol., *Spermaceti*, *Suet*, *Tragacanth*, *Vinolia*.

ERRHINES OR STERNUTATORIES.

Artemisia Sternut. (P.), *Bayberry* bark, *Boldo* leaves (P.), *Calotropis* Gig. (dried milk), *Canella* bark, *Erythrophlœum* bark (P.), *Euphorbium*, *Hellebor. Alb.*, *Hydrarg. Subsulph.*, *Ipecac.*, *Iris* Vers., *Lobelia*, *Prunus* Virg., *Pyrethrum* Ind., *Sanguinaria*, *Tabacum*, *Valerian*, *Veratrum* Alb.

EXPECTORANTS.

Acalypha Ind., *Acid Benz.*, *A. Camphoric*, *Adhatoda* V., *Æther*, *Agaricin*, *Allium* Sat., *Althæa* Off., *Ammon. Benz.*, *Ammon. Carb.*, *Ammon. Chloride*, *Ampelopsis*, *Ammoniacum*, *Anemonine*, *Antimony*, *Apomorphia*, *Arbor Vitæ*, *Arisæma* Drac., *A. Triph.*, *Asarum* Eur., *Asclepias* Cur., *Assafoetida*, *Bals. Copaiba*, *B. Gurjun*, *B. Peru*, *B. Tolu*, *Balsamodendron* Opob., *Benzoin*, *Borax*, *Caffeine*, *Ceonthus*, *Chekan*, *Coca*, *Cocillana*, *Cocculus* Cord., *Coleus* Corn., *Collinsonia*, *Cubebs*, *Dioscorea* V., *Drosera*, *Dulcamara*, *Elephantopus*, *Eryngium* Y., *Eucalyptus* *Eucalyptine*, *Eucalyp. Honey*, *Euonymin*, *Eupatoreum* Ayap., *Euphorbia* Cor., *Euphorbia* Pilulif., *Ficus*, *Galbanum*, *Hydrocotyle* As., *Illicium* Anis., *Iodum*, *Ipecac.*, *Jaborandi*, *Lachnanth. T.*, *Lactuca* Sat., *Larix*, *Ledum* Lat., *Lepidium* Sat., *Lipia* Mex., *Lobelia*, *Mastiche*, *Mullein*, *Myrrha*, *Naregamia* *Alata*, *Nelumbium* Spec., *Œnanthe* Ph., *Pilocarpine*, *Pimpinella* *Anis.*, *Pix*, *Polymonium*, *Pot. Sulphurata*, *Prunus* Virg., *Pulsatilla*, *Pumiline*, *Pumilio* Extr., *Quebracho*, *Quillaia* Sapon., *Sanguinaria*,

Scilla, *Senecio*, *Senega*, *Solanum Jacq.*, *Stillingia*, *Styrac*, *Sulphur*,
Tabacum, *Terebene*, *Terpene Hydrate*, *Viola Od.*, *Withania C.*,
Yerba Santa, *Yerbena H.*

GALACTAFUGES OR LACTAFUGES.

1. R Pot. Iodidi grs. 8, Quin. Sulph. gr. $\frac{1}{2}$ -3. Aquæ ad. oz. 1 M.
 To be given every 4-hours.
2. R Ext. Bellad. grs. 30, Camphor grs. 30, Collodion drs. 4, M.
 To be applied over the breast twice a day with a brush. For
 restraining or retarding the lacteal secretion in acute mastitis
 due to cold or to obstructions in milk ducts.
3. (Ind.) A poultice of the flowers of *Jasminum Sambuc* (*Mográná-
 phuel*) applied locally has a powerful lactafuge properties.
4. (Ind.) A poultice of the seeds of *Phaseolus Mungo* (*Munga*)
 locally applied.
5. (Ind.) *Conium Seeds* (*Kīrdamānā*) locally applied as a paste.
6. *Agaricus Alb.*, *Antipyrin* 60, Camphor, *Colchicum*, *Elder-
 berry*, *Ligustrum Vulg.*, *Magn. Sulph.*, *Pot. Acetas*, *Pöt. Nitr.*,
Rhamnus Alot., *Spearmint* (I. and E.), *Tobacco*.

GALACTAGOGUES OR LACTAGOGUES.

1. (Sp.) *Elixir Palma Christi*.—R Ext. Ricini. Fol. Fl. drs. $1\frac{1}{2}$,
 Ext. Fœniculi Fl. drs. $1\frac{1}{2}$, Ext. Anisi Fl. drs. $1\frac{1}{2}$, Ext. Gaul-
 theriæ grs. 15, Aquæ ozs. 3. M. A $\frac{1}{3}$ part. t. i. d.
2. (Sp.) R *Physostigmæ Fab. Pv.* grs. 20, Vaseline ozs. 1, Ft.
 Ung. To be applied to the breast and washed off carefully
 before the baby is allowed to suck.
3. Ind. (Sp.) R *Radici Coccul. Cord.* (*Galonijud*), *Rad. Tribul.
 Terrestr.* (*Gokhrunijud*), *Rad. Asparagus Race.* (*Shatával ni
 jud*) â â grs. 180, Aquæ, ozs. 20. Boil the whole till $2\frac{1}{2}$ ozs.
 remain. One-half to be taken morning and evening.
4. (Ind.) R Carrot seeds oz. 1, *Allii Cepæ* (Onion) seeds oz. 1,
Anethi Fruct. oz. 1, *Fœniculi Fruct.* oz. 1, *Cicer Arietina*
 (parched grams) ozs. 6, M. A tablespoonful to be taken
 twice a day.

5. Castor Oil leaves boiled in water and applied on breast are effective, where defective secretion is due to plethora.
6. List of other external and internal remedies :—*Althæa*, *Apiol*, *Borago Off.*, *Coronella Juncea*, *Echium Vul.*, *Erucha St.*, *Jaborandi* 402, *Jatropha Curcas* 427, *Lactuca*, *Malva Sylv.*, *Papaya* 541, *Pilocarpine* 407, *Porphyra Lace.*, *Saponaria Vace.*, *Scoparium*, *Xanthoxylum*.

HÆMOSTATICS OR STYPTICS.

Acid Chromic, Acid Sclerotic, *Antipyrin* 59, *Asclepias Curr.* 74, Astringents (*quo vide*), *Collodium Nov.* 212, *Collodium Styptic*, 213, *Chloroform* 167-68, *Creoline*, *Ergotinine* 249, *Eucalyptine* 264, *Gelsemium* 301, *Hamamelis* 319, *Hazeline* 322, *Hydrangea Arb.*, *Hydrastine*, *Ichthyol*, *Jatropha Curcas* 427, *Lamium Alb.* 449, *Lobelia* 467, *Mangifera Ind.* 478, *Penghawar Djambi* 547, *Plantago Lanc.* 573, *Punica granatum* 584, *Rhus Arom.* 616, *Shepherd's Purse* 566, *Sodium Chloride* 661, *Ustilago Maidis*, *Xanthoxylum*.

Vide "Epistaxis, Hæmaturia, Hæmoptysis, Menorrhagia, &c."

HYPNOTICS, SOPORIFICS, &c.

Acetal, *Acetophenone*, *Ammon. Bromide*, *Amylene Hydrate* 46, *Amyl Valerianate* 751, *Boldoin* 46, *Camph. Monobrom.*, *Camphor-Chloral* 134, *Cannab. Ind.*, *Cannabinon*, *Cannab. Tan.* 140, *Chloralamid* 164, *Chloroform* 169, *Codeine* 204, *Coninæ Hydrobrom.*, *Convallaria* 221, *Croton-Chloral*, *Cypripedium* 232, *Eschscholtzia C.*, 252, *Gelsemium* 298, *Guachamacha* 313, *Hyoscyam. Sulph.* 359, *Hyoscine Hydrobrom.* 362, *Hypnal* 760, *Jamaica Dogwood* 417, *Lactuca*, *Lithiæ Bromide*, *Magn. Bromide*, *Methylal* 496, *Morphia*, *Morphia Phthalate*, *Narceine*, *Nutmegs* 500, *Nux Vom.* 512, *Opium*, *Paraldehyde* 545, *Phenacetine* 556, *Pot. Bromide*, *Quinæ Sulph.*, 597, *Resorcine* 607, *Solanine*, *Somnal* 669, *Sulphonal* 694, *Ural*, *Urethane* 715. *Vide Insomnia.*

LITHONLYTICS AND LITHONTRIPTICS.

Acid Benzoic, *A. Citric*, *A. Phosphoric*, *Ammon. Benz.*, *Borax*, *Buchu*, *Carlsbad Water*, *Chimaphila*, *Coffee green* 206, *Eupatorium*

Purpur., Galium Aparine, Hollarhena Antyd., *Hydrangea Arb.* 330, *Kava-Kava* 437, *Lithiæ Benz.*, *L. Carb.*, *L. Citr.*, Menisperm. C., *Orthosiphon* 530, Papain 541, Pareira, *Pichi* 568, Pot. Acet., P. Bicarb., P. Citr., Pot. Permang. 552, *Raphanus Sat.* seeds, *Silicate of Lime*, Seltzer Mineral Water, Sod. Bicarb., *Sod. Hippuras* 663, Sod. Phosph., *Stigmata Maidis* 682.

MYDRIATICS OR PUPIL-DILATORS.

Atropine, Bellad., Daturine, Duboisia, Erythrophlœine, Ethyl, Gelsemine, Homatropine, Hydrastine, Hyoscyamine, Hyoscine, Muscarine, Piscidin, Scopolene, Solanine, Strammonium.

MYOTICS OR PUPIL-CONTRACTORS.

Eserine, Ext. Physostigma, Jaborandi, Morphia, Opium, Pilocarpine.

NARCOTICS.

Absinthium, *Æsculus Hip.*, *Æther* 28, Arnica, *Artemisia Abrot.*, Atropine, Bellad., *Cannabis Ind.*, *Celastrus Scan.*, *Chloral*, *Chlorodyne*, *Chloroform*, *Cocculus Ind.*, *Conium*, Creasote, *Delphinium Staph.*, *Dulcamara*, *Hyoscyamus*, *Hyoscine*, *Hyoscyamine*, *Jamaica Dogwood*, *Lactuca*, *Lupulin*, *Lycopus Virg.*, *Melia Azedarach*, *Mistletoe*, *Morphia*, *Morphia Phthalus*, *Mullein*, *Nutmeg*, *Ænauthe Ph.*, *Opium*, *Papaver*, *Phytolacca*, Pot. *Sulphurata*, *Rhus Toxicoden.*, *Solanine*, *Strammonium*, *Tabacum*.

NUTRITIVES.

Acacia Gum, Amygdala, *Cetraria Dec.*, *Ficus*, Glycerine, Kéfir, Koumiss, Malt Extr., Maltine, Meat Ext., Manna, Ol. *Eulachon*, Ol. *Morrhæ*, Ol. *Olivæ*, Ovi *Vitellus*, *Prunum*, Sacch. Lact., Saw Palmetto, Sevum, Sp. *Vini Gallici Mist.*, *Theriaca*, *Uvæ*.

PARASITICIDES, INSECTICIDES, &c.

Acid Carbol., A. *Chrysoph.*, A. *Oxynaphthoic.*, A. *Sulphurous*, *Aplotax. Aur.*, *Calamus*, *Camphor*, Castor Oil Leaves, *Chamomile*, *Cleome Viscosa*, *Cocculus Ind.*, *Creasote*, *Cresol*, *Delphinium Staph.*,

Dryobalanops Camph., *Gardinia Gummif.*, *Helenin* 324, *Hydrarg. Ammon.*, *Hydrarg. Ox. Rubr.*, *Jatropha Curcas* juice 427, *Naphthalin*, 502, *Olea Essentia et Expressa*, *Ol. Patchouli* 525, *Phenyle*, *Pongamia Glabra*, *Pyrethrum Roseum*, *Quassia*, *Sabadilla*, *Salol*, *Sanitas Oil* 641, *Sodii Hyposulph.*, *Sulphur*, *Tabacum*.

REFRIGERANTS.

Aqua, Acid Acetic, A. Citric, A. Hydrochloric, A. Phosp., A. Tartar., Ammon. Acet. Liq., Aurantii Succus, Borax, Grape juice, Limonis Succus, Mori Syrup, Oxymel, Pot. Citr., P. Chloras. P. Nitras, P. Tartras Acida, Prunum, Sp. Ether. Nitr., Tamarind, Water Melon Juice.

RUBEFIACIENTS.

* Alcohol, Argemone Mex. seeds, Bhawchee, Cadmium Iodide, Cleome Visc. bark, * Chloroform, * Ether, Euphorbia Corr., Horseradish, Iodine, Kamala, Lin. Camph. Co., Lin. Capsici, Lin. Croton., Liu. Sinapis. Co., Liq. Ammon., Mezereon, Mustard Cataplasma, Ol. Ajwan, Ol. Cajeput, Ol. Camphor, Ol. Chaulmoogra, Ol. Cinnamon, Ol. Limonis, Ol. Petrolei, Ol. Rutæ, Ol. Succini, Ol. Sinapis Vol., Ol. Terebinth., Plumeria Acum., Plumbi Iodide, Sedum Acre, Thapsia Garg., Tr. Capsici Ether.

SEDATIVES.

1. **Vascular Sedatives.**—Those printed in *Italics* act especially on the heart.

Acid Hydrocyan. D., *Aconite*, *Adonidin*, *Ammon Fluoride*, *Antiarin*, *Antimony*, *Aqua Laurocerasi*, *Barium Chloride*, *Cactus Grandif* (1st. and 2nd. stages), *Colchicum*, *Convallaria* (full doses), *Ergot*, *Erythrophlœine*, *Grindelia Rob.*, *Helleborein*, *Ipecac.*, *Kalmia Latif.*, *Mistletoe*, *Oleander*, *Ouabain*, *Physostigmine*, *Plumbi. Acet.*, *Pot. Nitr.*, *Prunus Virg.*, *Quebracho*, *Stigmata Maidis*, *Tabaccum*, *Upas*, *Urechites Sub.*, *Veratrum V.*, *Zinc Cyanide*.

* When evaporation is prevented.

2. Cerebro-Spinal Sedatives.—*Acid Hydrocyan. D.*, A. Hydrobrom. D., Aconite, Actæa Rac., Ammon. Bromide, *Atropine*, Bellad., Camph. Brom., Cerii Oxalas, Chloral. Chloroform, Cicuta Mac., Colchicum, *Conium*, Croton-Chloral, *Curara*, Cypripedium, Duboisia, Elaterium, *Eserine*, Ethyl Bromide, Eucalyptus, *Gelsemium*, *Guachamachu*, Hyoscyamus, *Hyoscine Hydrobrom.*, Lactuca, *Paraldehyde*, Pot. Bromide, Pot. Nitr., Prunus Persica, Prunus Virg., Pulsatilla, *Salix Nigra*, Scutellarin, Veratrum V., *Viburn. Prun.*

SIALAGOGUES.

Armoracia, Coca, Coto, Hydrangea Arb., Hydrargyrum, Iodides, Iridin, *Jaborandi*, Jatropha Curcas, Kava Kava, Manzanita, Mustard, Menispermum, Mezereon, *Muscarine*, Myrica Sapida, Piper, Pyrethrum, Sinapis, Tobacco, Xanthoxylum, Zingiber.

STIMULANTS.

Vascular Stimulants.—*Æther*, Alcohol, Ammonia, A. Acetas, A. Carb., A. Citras, Ammoniacum, *Amyl Nitrite*, Anhalonium L., Aromatics, Aromatic Volatile Oils, Assafoetida, *Cactus Grandif.* (3rd. stage), *Caffeine*, Camphor, Carminatives, Chloroform, Coca, *Cocaine*, Creatine, Galbanum, *Guarana*, Guaiacum, Isapiol, Isobutyl Nitrite, *Menthol*, Mezereon, *Nitroglycerine*, Resin, *Sanguinaria*, Sassafras, Serpentary, Siegesbeckia, Sodium Nitrite, Sparteine, Sp. Ammon. Aro., Sp. Vini Gal., Strophanthus, Sumbul, Terebinthina, Thea, Thus, Valerian, Vin. Xericum, Xanthoxylum, Warburg's Tincture.

Cerebro-Spinal Stimulants.—Absinthe, *Acid Benz.*, *Allium Sat.*, *Aploptaxis A.*, Aralia R., Arnica, *Assafoetida*, Bellad., *Caffeine*, Cajeput, *Cannabis*, *Cantharis*, Castoreum, *Celastrus Pan.*, Coca, *Cocaine*, Creatine, *Damiana*, Ergot, *Jatamansi*, *Moschus*, Morphia, *Nux Vom.*, Opium, Phosphate of Lime, Picrotoxine (small doses), Phosphorus, Polygonum Acre, Populus, Can., Pyrethrum Parth., *Rhus Tox.*, Ruta, *Spermine*, *Strychnine*, Thebaia, Valerian, *Vanilla*, *Xanthoxylum*.

TONICS.

Blood Tonics.—Animal Oils, Ferruginous preparations, Manganese oxide and its salts, Ol. Morrhuæ, Sarsæ Radix, Siegesbeckia, Vegetable Oils.

Nervine Tonics.—Acid Arsenious, Argenti Nitras, A. Oxide, Brucia, Cerii Oxalas, Convallaria, Cupri Sulph., Cusparia, Cypripedium, Damiana, Hoang Nan, Hypophosphites, Nickel Sulph., Nux Vom., Scutellaria Lat., Strychnia, Zinc Phosphide, Zinc Sulphate.

Stomachic Tonics.—Absinthe, Acids Mineral, Aletris Far., Ampelopsis Q., Amylodextrin, Armoracia, Aurantii Cort., Beberiæ Sulph., Black Alder, Blumea Aur., Boldo, Buchu, Burdock, Calamus, Calumba, Cascarilla, Cedron, Centaury, Cerasus Virg., Chamomile, Chelonin, Chicorium, Chionanthus, Chiretta, Cinchona, Coca, Coccus Cord., Collinsonia, Conessi bark, Copalchi bark, Coptis Teeta, Cornus Florida, Creole Quinine, Cusparia, Frasera Car., Guarana, Helenin, Hoang Nan, Hydrastis Can., Hydrocotyle As., Hyssopus, Limonis Cort., Lupulus, Lycopus Eur., Magnolia Gl., Menispermum, Menyanthes, Nux Vom., Ostrya Virg., Pimenta, Pimpinella A., Polygonatum Off., Populus Trem., Potentilla T., Pyrethrum P., Pyrus Malus, Prunus Virg., Pareira, Quassia, Quinine, Rhubarb, Rudbeckia, Rubus Can., Salicine, Senecio Aur., Saw Palmetto, Serpentry, Simaruba, Strychnia, Strychn. Colub., Strych. Potat., Siegesbeckia, Tenacetum Vulg., Xanthoxylum.

VESICANTS.

Acid Acet. Glacial, Cantharidine, Charta Epis., Chloral Hydrate 166, Juglans Cinerea (inner bark), Liq. Episp., Mezereon, Moringa Plerygosp. (fresh root), Polygonum Acre.



ABORTION AND MISCARRIAGE.

Threatened Abortion.

1. If the *flowing* be but *trifling*, if the *os* be *undilated*, if *labour* has *not commenced*, there may be hope that no irreparable mischief has been done to the vessels of the utero-placental circulation. It is even possible that the hemorrhage may be due to active hyperæmia of the uterine mucosa, and not to rupture of the placental connections. Then put the patient to bed, give 25 drops of laudanum and apply cloths wrung out of ice-water to the vulva and pubes. If these fail, and the physician is convinced that all efforts to quiet uterine action and save the life of the foetus are in vain, he will, if the hemorrhage continues, if the *os* and *cervix* be not open, plug the vagina and give ergot. The method of tamponading is performed as follows :—The patient is placed on her side or in the lithotomy position ; a speculum (preferably a Sims) is introduced, and the vagina is thoroughly packed with pledgets of cotton soaked in strong vinegar ; a string may be attached to these wads, kite-tail fashion, to facilitate extraction. *The vagina should not be merely filled, it should be thoroughly packed, or the tampon will do no good, and on arriving at the vulva, dry cotton wads should be inserted.* A few compresses should be placed over this, and the whole kept firmly *in situ* by a T-bandage. After 12 hours the plug should be removed, when the *os* will generally be found dilated, and the foetus in reach. In some cases it will be necessary to renew the tamponading, the vagina having been previously well washed out with a hot sublimate solution (1 to 2000). If, after waiting another 12 hours, and removing the tampon, the ovum is still retained, and the patient is free from septic fever and alarming hemorrhage, then it will be prudent to suspend all active interference, to give ergot, and await the expulsion of the foetus by uterine contractions. If, however, any urgency in the symptoms should contraindicate any such delay, forcible dilatation of the cervix should be effected, and the ovum extracted by digital manœuvres, if possible, or by blunt hook or forceps. The practitioner is seldom fortunate enough to get placenta away at one sweep with the ovum ; it may

remain behind on account of pretty firm attachment to the uterine walls. In such cases it is frequently found advisable to wait till, by the natural efforts, the after-birth had become separated from the uterus; intrauterine antiseptic carbolic ($2\frac{1}{2}$ p. c.) or sublimate douches being frequently given to prevent septic accidents. Also a 10-gr. Iodoform-pencil may be carried after each douching up to the fundus and left there. The douche of itself has a powerful effect in aiding the removal of the secundines. Sometimes thorough artificial dilatation of the cervix and the free use of the curette is indicated, it is really only exceptionally that the use of curette is needed in the treatment of abortion. By thorough antiseptic cleansings of the uterine cavity and the use of iodoform-pencils, the case can generally be safely left to nature.

Although the use of cold applications externally in abortions is condemned by Lusk, on account of their being too depressing, and driving the blood inward, yet I have sometimes seemed to gain time—to promote the formation of clots in bleeding vessels, to markedly lessen the hemorrhage and the danger—by applying pieces of ice wrapped in a napkin to the vulva and lower part of the abdomen. The ice is kept constantly *in situ* for an hour or two: by that time the danger is often over. As a substitute for the vaginal tampon, in grave cases of hemorrhage that cannot be controlled by rest, ergot, and external cold, Skene recommends tamponading the cervix uteri. He places a compress on the vulva, securing it by an ordinary T-bandage. If this fails to keep the bleeding within the bounds of safety, he then tampons the cervix. This is done, either by using a sponge tent or by crowding an ordinary piece of sponge into the cervix with the uterine dressing forceps. The hydrostatic dilators fulfil the indication better still. In using them the water in the dilator should be increased from time to time, so that it may rather more than keep pace with the dilatation of the cervix. When the os is well dilated, a manipulation is sometimes efficacious. Two fingers of one hand are introduced into the vagina, and passed as far up as possible into the fornix vaginae; the other hand grasps the uterus through the abdominal parietes, and firmly compresses the organ between the fingers of both hands, slowly expelling its contents.

When the ovum and secundines are removed, a hot sublimate douche (115° F.) may be indicated, both for a hæmostatic and antiseptic effect. I have generally found it necessary to administer such a vaginal douche night and morning for the first few days. (E. P. Hurd, M.D.).

2. (Sp.) *Viburnum Prunifolium* (720-722):

3. *Venesection*: This was advised by the old authorities; Churchill recommends it. Plethoric cases, where blood-letting seems called for, or is justifiable, will be very few indeed.

Habitual Abortion.

1. (Sp.) *Viburnum Prunifolium* (720-722):

2. *Elixir cramp-bark compound*:—A fluid ounce of this elixir represents of:—*Viburn. Opulis.* grs. 28; *Scutellaria. Lat.* grs. 28; *Symplocarp. Foetid.* grs. 14. *Dose*: dr. 1 to drs. 2. A scientific medicinal preparation for irritable uterus, correcting predisposition to abortion.

3. Bruce extols *Chlorate of Potassium* in 20 gr. doses ter die: and Picinily is said to have known of several cases in which the *Chlorate* has been successfully used with women who ordinarily failed to reach their full term.

4. Other remedies are: *Aletris Farinosa* 38, *Auri et Sodii. Chloride* 76, *Caulophyllin* and *Pulsatilla* 155, *Stylosanthes* 691.

ABSCCESS, (COLD, SCROFULOUS, &c.)

Calcium Sulphide (I.); Ichthyol 376, Iodoform 391, Iodol. Santitas Oil, Sodii Hyposulphis (I.); Sodii Sulpho-benzoas, &c.

ACNE.

1. Dr. Pifford recommends the use of Sulphide of Calcium in very small doses, in common acne (*A. Vulgaris*, *A. Disseminata*), suspending its use when it appears to produce any morbid symptoms and returning to it when they have passed off. *Sulphide of Calcium* is especially suitable for persons with *lymphatic constitution* while *Bromide of Arsenic* is useful for robust temperament. As local treatment he opens each papular pustule of acne with the point of a lancet, empties their contents and washing with water as hot as can be borne

by the patient, or without opening papule, soothing applications, such as Belladonna or Stramonium with Lard, may be applied. In chronic cases the Calcium Sulphide should be given in doses sufficiently large to produce its full physiological action, *i.e.*, until the local lesions become increased when it should be suspended. Sometimes internal administration of Corr. Subl. or Iodide of Potassium may be of service and this treatment must also be suspended from time to time. Against *subacute acne* topical application must be used which excite the circulation and which excite the intensity of the pathological process. After inflammation and tumefaction of the integument have been produced by these means, suspend the irritant treatment and replace by emollient applications, to be again recommenced. After each of these successive enforced inflammation, the corneal layer of the epidermis undergoes desquamation and as a consequence, the acniform lesions become less abundant and less severe.

Precipitated Sulphur or Flowers of Sulphur is also very efficacious in different forms of *Acne* from *simple Acne* to *Seborrhœa*. Take of *Precipitated Sulphur* and *Camphorated Alcohol* each 375 to 400 grs. in $8\frac{1}{2}$ ozs. of water; shake bottle and apply at night and allow to dry on; in the morning wash with black soap and warm water; then if the derma is somewhat inflamed, cover it with ointment made of Oxide of Zinc 1 part with Vaseline 10 parts. This plan is continued until the disease is cured or until the inflammation becomes too intense; in the latter case suspend the treatment temporarily. Another remedy is Corr. Subl. in ointment or lotion. Commence with 1 to 10 of one-per cent. warm solution applied each morning and gradually increase the strength. During the day the part may be covered with a thin layer of Zinc Oxide ointment to calm the irritation produced by Mercury, &c. Internally give Ergot in doses of 15 to 30 grs. per day and use Camphorated Alcohol locally. So first try Camphorated alcohol wash and Ergot internally, and if these fail, use other measures.

2. R Resorcini grs. 12 to 20; Amyli Pulv. grs. 20; Zinci Oxidi. grs. 20; Vaselini, dr. 1. M. Apply it on going to bed and rub it off in the morning. It does not give rise to any irritation and its beneficial effect is felt in three days. For *Acne Rosacea*. (Vide Pg. 612).

3. R Lac. Sulphuris. grs. 30 ; Thymoli grs, 3 ; Zinci. Oleat. grs. 20 ; Lanolini. drs. 4. M. For *acne rosacea*.
4. (a.) R Beta-Naphthol Parts 10 ; Sulph. Precip. Parts 50 ; Sapo. Virid. Parts 20 ; Vaseline Parts 20. M. To be applied to the affected portion of the skin either with a brush or a spatula and left *in situ* for from half an hour to an hour. Repeat every day until desquamation of the entire epidermis has taken place.
- (b.) R Pulv. Cretæ Alb. Parts 5 ; Beta-Naphthol Parts 10 ; Camphoræ Parts 10 ; Sulph. Precip. Parts 50 ; Sapo. Virid. Parts 15 ; Vaseline Parts 10. M. Useful especially for *stubborn cases* ; as this ointment is more irritative than the above owing to its containing camphor, it should be only left on the skin for 15 minutes. (Dr. Lassar.)
5. R Adipis drs. 5, Sulphuris grs. 8-15, Acid Tannic grs. 8-15. M. Friction is to be made every evening over the acne papules, and in the morning face is to be bathed with warm water to which a little bay rum has been added, the proportion being increased from day to day until it amounts to one-third. M. Doyen recommends bathing with the following : Hydrarg. Perchl. grs. 30, Tr. Lavand. drs. $2\frac{1}{2}$, Aq. Distil. ozs. 10 M.
6. R Hydrarg. Oleat. grs. 10 to 20 ; Zinc. Oleat. dr. 1. M. For *chronic acne*.
7. R Pot. Sulphuratæ drs. $2\frac{1}{2}$, Tr. Benzoini drs. $2\frac{1}{2}$, Aq. Distil. drs. 10 M. Two teaspoonfuls in a glass of water to be used externally (M. Hardy).
8. R Acid Salicylic grs. 52 ; Sodium Borate grs. 52 ; Acid Boric grs, 40 ; Alcohol oz. $1\frac{1}{2}$; Glycerine oz. $1\frac{1}{2}$; Oil of Bergamot mins. 5. To be used as a wash three times a day.
9. R Hydrarg. Bichloridi, gr. $\frac{1}{2}$ to grs. 2 ; Mist. Amygdal. Amar. ozs. 6, M. Ft. Lotio.
10. R Calamini. dr. 1 ; Cretæ Prep. dr. 1 ; Acid Hydrocy. dil. mins. 30 ; Glycerini drs. 3 ; Liq. Calcis. ozs. 3 ; Aquæ Rosæ ad ozs. 8, M. For *acne when there is much irritation and inflammation*.

11. When acne is due to *ovarian congestion* which is very often present in the women, 20 grs. of *bromide of potassium* internally soon relieves it and nothing externally is needed.

12. Other Topical Remedies :—(a.) *A. Rosacea*: Bismuth Oleate, Chrysephanic Acid, Ext. Hamamel. Fl. (1 to 20 of water), *Ichthyol* 366, Liq. Potass., *Thiol* 708. (b.) *A. Indurata* :—Creasote, Hydrarg. Ammon., Plumbi Oleate 518. *A. Punctata*: Ung. Sulph. Iod.

13. Internal Remedies are :—Alkalies, Ammon Chloride, Arsenic, *Arsenic Sulphide* (gr. 1/100), *Ichthyol*, Pot. Chloras 575; Salines.

ADYNAMIA.

1. (Sp.) R Moschi, grs. 2 to 4; Ext. Digit., gr. $\frac{1}{2}$; Ext. Opii, gr. $\frac{1}{8}$ to $\frac{1}{4}$, M. ft. pil. 1 pill every 2 to 4 hours according to circumstances. *In low typhous states of continued fevers.*
2. (Sp.) R Liq. Sodæ Chloratæ, dr. 1; Tr. Cinchonæ Comp., drs. 6; Sp., Vini Gallici, drs. 12; Tr. Cantharidis, mins. 40; Aquæ, ad fl. ozs. 8. M. 1/6 part every 3 or 4 hours. *In low fever, with great prostration.* (Dr. Tanner.)
3. (Sp.) *Warburg's Fever Tincture* 733.
4. R Pil Phosph. Mol., grs. $1\frac{1}{2}$; Ext. Bellad., gr. $\frac{1}{4}$. M. ft. pil. 1 Pill t. i. d. A nervo-cardiac stimulant, indicated in all cases where there is depression of the sympathetic nerve force. Indicated in advanced cases of typhus and typhoid fevers. In cases of adynamia and extreme nervous exhaustion, 2 pills may be given for a dose and repeated every 3, 4 or 6 hours, according to the urgency of the symptoms.
5. F. 6. **Anæmia.** (q. v.).

For other remedies *vide* **Stimulants.**

AFTER-PAINS.

1. (Sp.) R Morph. Sulph. gr. $\frac{1}{4}$, Atropinæ Sulph. gr. 1/100. Conf. Amygd. q. s. M. ft. gran. One granule as required. Extremely useful to relieve after-pains.

2. R Sulphonal grs. 10, Codeia gr. $\frac{1}{2}$, M. ft. pulv. 1. Useful after labour when there is sleeplessness and considerable after pains.
3. R Ext. Viburn. Prun. Fl. mins. 30, Ext. Piscidiæ Ery. Fl. mins. 30, Glycerini dr. 1, Aquæ ad oz. 1. M. To be given every 3 hours. It has the same anodyne and hypnotic effects as the above.
4. Antipyrin 59, Camphor, Cannabis, Caulophyllin, Chloral, Cypripedium, Gelsemium, Humulus, Lobelia, Opium, Scutellaria Lat., Viburn. Prun. 728.

ALBUMINURIA.

Albuminuria of Bright's Disease.

1. (Sp.) R Sodii Iodidi grs. 15, Sodii Phosphatis grs. 30, Sodii Chloridi grs. 90, Aquæ q, s. ut solvuntur. To be given either alone or with milk during the day. A *specific* for *albuminuria* depending on *Nephritis*.
2. R Sodii Chloridi grs. 10. Give it thrice a day one hour after or one hour before meals on the first day. On the second day increase the dose by 10 grs. ; on the third day further increase it by 10 grs. and so on until the patient is taking 50 grs. ter die. During this treatment the patient should assume the recumbent posture on the slightest intimation of nausea. It *diminishes* the *albumen* and *increases* the *renal secretion* in albuminuria.
3. (Sp.) The remarkable effect of Corrosive Sublimate in albuminuria due to Chronic Bright's diseases was first shown in its being used in a very serious and hopeless case after Digitalis, Apocynum, Gamboge, Cream of Tartar and Elaterium had failed. $\frac{1}{8}$ gr. of Corr. Subl. with 1 dr. doses of Tr. Cinchona was given first every 4 hours and then every 2 hours. It soon acted as a diuretic, increasing urine to 4 pints a day ; all dropsy was removed and all symptoms improved. In a second case $\frac{1}{8}$ gr. was given ter die for 7 weeks, the oedema disappeared but albumen remained. This energetic preparation has now been used with great success for 20 years in New York Hospital. (1862 Reports). It induces copious diuresis and rapidly diminishes thus dropsical swellings. For further *vide* **Chronic Bright's Diseases.**

4. (Sp.) R Fuchsine grs. 3, Ess. Menth. Virid. ms. 5, Syrupi dr. 1, Aquæ ad oz. 1. M. To be given t. i. d. For *Acute* and *Subacute* forms.

5. R Fuchsine gr. 1, Ferri Redacti gr. 1, Ext. Gent. q. s. M. ft. pil. For subacute and chronic forms.

6. D. J. B. Leary reports 4 cases in which the use of Fl. Ext. of Eucalyptus Glob., in doses of 8 to 10 mins. as a diuretic, resulted most favourably. (*Vide* Pg. 263.)

7. F. 1. *Anæmia*. (q. v.).

8. Asteracantha Longifolia. 75, Caffeine Citr. 127, Convallaria 221, Jaborandi 401, Lactose 448, Rubus Cham. 620, Sparteinæ Sulph., Stigmata Maidis 679.

Vide also **Diuretics**.

Albuminuria of Heart Disease.

1. *Treatment by Concentrated Solutions of Cathartics*.—If a saline cathartic or carthartics be given in a concentrated solution when the alimentary canal contains little or no fluid, it produces an immediate and very decided concentration of the blood, owing to the blood becoming deprived of a large amount of water through the intestinal secretion which the salt excites. Dr. Mathew Hay found that this concentration did not occur if the salt is administered in dilute solution or if the alimentary canal contains much fluid at the time of administration. This observation led Dr. Hay to the employment of a saline cathartic in a case of ascites from organic heart lesion (*Vide Ascites*). This treatment is most useful in general than local dropsies as Dr. Hay found and more in Cardiac Dropsy. *Vide* also **Pleurisy**.

2. Dr. Pecholier of Montpellier has published a note on the diuretic effects of grapes which would appear to confirm the diuretic action of glucose recently brought to notice. In two cases, one a patient with cardiac disease, (and the other the subject of hepatic cirrhosis with ascites,) a "grape cure" was undertaken with the best results. In the former patient, notably, five pounds of grapes were daily ingested, in three parts, and the diuresis produced was much more considerable than with milk, digitalis, or iodide of potassium. This

effect can only be attributed to the sugar of the juice of the grape, the other parts of the fruit having been rejected.

3. Mr. Ch. Spurway has used a homœopathic tincture of *Asclepias Syriaca* (Milk-Weed) as a diuretic in a case of cardiac dropsy, in conjunction with punctures and milk diet. The tincture was given in increasing doses of 2 to 7 mins. four times a day, The urine increased under this treatment from 6 to 8 ozs. to 40 ozs. in the day.

4. R Pot. Acet. grs. 30, Acet. Scillæ ms. 30, Sp. Æther. Nitr. ms. 20, Tr. Digit. ms. 5, Dec. Scoparii ad oz. $1\frac{1}{2}$. M. To be given t. i. d. In Dropsy due to heart disease.

5. (Ind.) R Cucumis Sat. (seeds), Raphani Sat. (seeds), Fenniculi Fructi, Pot. Carb., â â dr. 1, Aquæ ozs. 8. Ft. Decoct. 1 to 2 fl. ozs. t. i. d.

6. *Adonis Vernalis* 26, *Caffeine Citras* 127, *Cocaine*, *Convallaria* 219, and 221, *Erythrophlœine*, *Hydrarg.* Subchl. 339, *Lactose* 448, *Sparteine* 672, *Stigmata Maidis* 679 and 684, *Strophanthus* 689, *Ulexine* 772.

For further *vide* **Diuretics**.

Albuminuria of Pregnancy.

1. Benzoate of Calcium in 10 gr. doses t. i. d.

2. Preparations of Iron should be given internally ; *diuresis* (by acetate of potash and digitalis), *purging* (by pulv. jalap. comp.), and *diaphoresis* (by baths), should be induced in order to lessen the œdema.

Dietary.—Two principles should form the basis upon which the dietary of patients suffering from *urinary insufficiency*, as also for *albuminuric cases*, is built, viz. :—(1) To prevent, as far as possible, the formation of *poisonous products or toxines* in the system. (2) To reduce to a minimum the quantity of *toxines* introduced into the organism. Hence *all forms of meat* to be *forbidden*, especially *game*, which is apt to be tainted, for it is an error to suppose the various forms of meat do not contain ptomaines. As to aliments which may be given, the first place should be given to *eggs well cooked* as they have no influence upon the production of albuminuria. *Omelettes* and *starchy matters* (especially pure), as of *potatoes and peas* ; also *green vegetables well cooked*. For

beverages, *milk* is especially recommended ; and if any wine be taken, it should be *white wine*, diluted with water. If any meat at all is allowed, it should be beef *à la mode*, chicken with rice, or fresh pork. *From time to time a light purge may be given*, and by rigidly adhering to the principles concerning diet above laid down, life may be prolonged for a long time (Dr. Dujardin—Beaumetz).

New Tests for Albumen in Urine.—1. *Trichloracetic Acid* is a *more reliable test* than Nitric and Metaphosphoric Acids. The test may be employed either in a *solid* form or in a *solution*. If the solid be employed, a small fragment of the acid is placed in a test tube containing urine ; it sinks to the bottom and is dissolved, producing a *cloudiness*, or, with very clear liquids, a *zone of cloud*. The solution can be used either saturated or fairly concentrated. When poured upon the urine to be examined, it forms a *ring*, which is *characteristic* like that obtained by means of Nitric Acid, *but without producing any coloration*. If the urine contains much *urate of soda*, it is better to *dilute it with distilled water* (Boymand).

2. Dr. Zouchlos recommends the following as *convenient side tests* for albumen in the urine :—

(a.) A few drops of a mixture of 1 part of *Acetic Acid*, and 6 parts of a one per cent. solution of *Corrosive Sublimate*, when added to urine containing albumen, produces a *slight cloudiness*. *Peptone*, when mixed with Acetic Acid and Corr. Subl. in the above-mentioned proportions, *causes no cloudiness*, and this is *true* also of *Uric Acid*, *Solution of Urea*, *Phosphates* and *Sugar*. When the urine is *much concentrated*, it does *not* become *cloudy* on the addition of Corr. Subl. and Acetic Acid.

(b.) Another *method* which is still *more exact*—even more than that with the Ferrocyanide of Potassium and Acetic Acid—is the method with *Rhodanide of Potassium and Acetic Acid in the cold*. It is best to mix 100 cubic centimetres of a ten per cent. solution with 20 cubic centimetres of Acetic Acid, and to add some drops of this mixture to the urine to be tested. When albumen is present in small quantities, a *distinct cloudiness* occurs immediately on the addition of the above-mentioned mixture ; when the amount of *albumen* is *large*, a *thick white precipitate* is thrown down. An excess of the fluid

does no harm. *Normal urine*, when thus tested, invariably gives a *negative result*.

(c.) *The most convenient method is that with Rhodanide of Potassium and Succinic Acid*, which can be carried about in the solid form in boxes. Equal parts of Succinic Acid and Rhodanide of Potassium are mixed together, and a small quantity is added to the urine. If even a small amount of Albumen be present, cloudiness is produced.

ALCOHOLISM, DIPSO MANIA, &c.

1. (Sp.) (a.) Five minims of a solution of 1 gr. of *Strychnia* in 200 mins. of water, *injected* once in 24 hours. At the same time, *massage, baths, temperance, &c.*, are brought to bear upon the patient. This method has cured nine cases which were of long-standing. The length of treatment varied from 10 to 15 days.

(b.) Dr. Pombrak describes seven cases treated by *hypodermic injection of Strychnine*. He found strychnine a very valuable remedy, both in cases of chronic alcoholism and in those of dipsomania, *not merely curing the attacks, but abolishing the desire for drink*. The treatment must be carried out in a systematic manner, and must frequently be kept up for a very considerable period. As to the dose, Dr. Pombrak in cases of moderate severity commenced with one-thirtieth of a grain, in more serious ones with one-fifteenth. He found that while the treatment was being carried out there was no necessity to order the patients to abstain from the use of spirits; as they always did so of their own accord.

(2.) Another best mode of treatment is to place the patient in a large room provided with two beds. Then *roll him in a wet sheet*, keeping it wet all the time, and transferring the patient from one bed to the other when it becomes necessary. The patient should have a small quantity of *stimulant* with little *Chloral and Digitalis*. Disease begins and vice ends when the man no longer has the power to resist the craving for drink.

3. (Sp.) Dr. D. Unger has cured 2,800 cases of the worst forms of intemperance by giving to a drunkard a teaspoonful of the *Fl. Ext. Cinchona Rubra* every 3 hours and moistening his tongue

occasionally between the doses during the first and second days. The third day the dose is generally reduced to $\frac{1}{2}$ teaspoonful and gradually down to 15, 10 and 5 drops. The medicine is continued for a period of 5 to 15 days and in extreme cases to 30 days. 7 days is average.

4. (Sp.) R Chinchonidinæ Sulph. gr. 1, Capsici gr. 1. M. ft. pil.
One, two, or three t. i. d. It diminishes the craving for alcoholic stimulants and generally breaks the habit if continued for a time.
5. (Sp.) R Capsici grs. 5, Ext. Nucis Vom. gr. $\frac{1}{4}$. M. ft. pil.
Two pills t. i. d. A substitute for alcohol in *Dipsomania*. It is useful in the *dyspepsia*, *flatulence*, and *hypochondriasis* arising from the abuse of alcohol. A good medicine for *drunkards*.
6. R Zinci Oxidi grs. 3, Piperinæ gr. 1, Ext. Gent. q. s. M. ft. pil.
One four times a day. In Delirium Tremens and Chronic Alcoholism. A good pill for drunkards to allay *craving for alcohol*.
6. Other remedies for diminishing the craving and curing the habit are: Ajowan 31, Ammonia, Bromides, Calumba, Coca 178, Gentian, Ichthyol 371, Kola Nut 442, Lupulin, Musk, Phosphorus, Quinine.

Alcoholic Intoxication.

1. Ind. (Sp.) R Cabbage Water ozs. 2, Juice of Acid Pomegranate ozs. 2, Grape Vinegar oz. 1. M. Two tablespoonfuls to be taken before drinking any kind of strong spirit, when there will be *no intoxication* produced by the spirit.
2. (Ind.) Bruise a little of the root of the Plantain (*Musa Paradisiaca*), mix it with a wineglassful of water, press and filter. Give this to a person already drunk or under the effect of spirit, and the *intoxication* will immediately get *neutralized* and he will fall into sleep.
3. (Ind.) R Tamarind, Dates, Raisins, Acid Seeds of Pomegranate, Oxalis Corniculata (Guj. Amalá), â â grs. 12. Mix all and press out the juice. Useful against *intoxication* produced by spirituous liquors, Datura, &c.

Vide Delirium Tremens.

ALOPECIA. (BALDNESS.)

1. **Lassar's Treatment:**—1st stage: A strong tar soap is applied to the scalp for 10 minutes. 2nd stage: Removal of the soap by a tepid water douche, the water to be gradually cooled, the scalp to be well dried afterwards. 3rd stage: The scalp to be shampooed with a solution composed of Hydrarg. Bichloride grs. 10, Glycerine ozs. 2, Sp. Rect. ozs. 2, Dist. Water ozs. 5. 4th stage: Shampooing of head with absolute alcohol, to which half per cent of *Naphthol* has been added. 5th stage: The following solution to be well rubbed into the skin:—R Acid Salicyl grs. 30, Tr. Benzoin dr. 1, Ol. Ped. Taur ad ozs. 3.

2. **M. Besnier's Treatment for Syphilitic Alopecia:**—Cut the hair closely. In the morning, after washing the scalp with soap and hot water well rub in the ointment composed of Acid Salicyl. grs. 30, Sulph. Precip. drs. 3, Lanolin drs. $12\frac{1}{2}$, Vaseline drs. $12\frac{1}{2}$. Every night with a soft brush the scalp is brushed well with liniment made of Sp. Rosemary drs. 25, Tr. Cantharidis drs. $2\frac{1}{2}$. If the hair is naturally greasy, it may be rendered drier by applying every evening the following:—R Acid Salicyl. grs. 15, Amyli drs. 25. M. When the hairs cannot be closely cut as in females, the effects of treatment are more slowly manifested.

3. R Eau de Cologne ozs. 2, Tr. Cantharidis drs. 2, Ol. Rosmarini mins. 10, Ol. Lavand. mins. 15, Ol. Myrist. mins. 8. M.

4. R Tr. Cantharidis, Tr. Capsici â â dr. $1\frac{1}{2}$, Ol. Ricini ozs. 2, Sp. Lavand., Sp. Rosmar. â â drs. 4. M. To be applied on bald surface either as such, or diluted. For *Alopecia Areata*.

5. Tr. Cantharidis ozs. 5, Quin. Sulph. grs. 6, Sp. Rect. ozs. 6, Aromatic Vinegar dr. 1, Aquæ Calcis ozs. 5, Dist. Vinegar ozs. 5. M. A wash for strengthening the hair.

(6.) R Quin. Sulph. grs. 20, Glycerini oz. 1, Eau de Cologne ozs. 2, Rum ozs. 2, Aq. Rosæ ozs. 11. M. To be applied to the head twice a day.

(7.) R Hydr. Oxidi. Rub. grs. 5, Liq. Ammon. Fort. ms. 30, Ol. Ricini drs. 4, Vaseline drs. 4, Ol. Rosmary to perfume. M. A pomade to renew the hairs.

(8.) Ung. Hydrag. Oleat., Ol. Ergotæ, Lanolini, â â drs. 4. M.

(9.) F. 3. Dandriff.

(10.) *Other external remedies* :—(a.) Decoct. of Burdock root.
(b) *Jaborandi* 405, *Jatamansi* 426, *Lanoline* 461, *Pilocarpine*. 2 grs.
to oz. 1.

(11.) *Internal Remedies* :—*Hoang-Nan* 327, *Jaborandi*, *Pilocarpine* 409.

AMBLYOPIA AND AMAUROSIS.

In both alcoholic and tobacco amblyopia, especially in those cases in which there is partial mydriasis, much benefit is derived from the employment of *Pilocarpine* locally, and the internal administration of *Santonine* and *Strychnine*, with the total abandonment both of tobacco and alcohol while there is yet time. A combination of 1/32 to 1/40 gr. of *Strychnine*, *Dialysed Iron*, and *Arsenic* in certain cases, is very useful in most amblyopic conditions depending upon atonic states of the nervous system. (Dr. MacNaughton Jones.)

2. Eserine drops locally ; Electricity ; Amyl Nitrite (I.).

AMENORRHŒA.

1. (Sp.) R Liq. Hydrag. Perchl. oz. 1, Pot. Iodidi grs. 30, Ferri Ammon. Citr. dr. 1, Sp. Chloroformi drs. 2, Aquæ ad ozs. 8.
M. One tablespoonful t. i. d. after meals. A certain and safe emmenagogue used successfully in a large number of cases.
2. R Ergotini gr. 1, Aloes gr. 1, Ol. Sabinæ min. $\frac{1}{2}$, Ext. Hellebor. Nig. gr. 1, Ferri Sulph. gr. 1. M. ft. pil.
3. R Aloes grs. 15, Rue, Saffron, Savin, â â grs. $7\frac{1}{2}$. M. ft. pil. 10.
One morning and evening, commencing two or three days before the expected menstrual epoch. Along with these pills employ warm hip-baths, dry cups to the lumbar regions, leeches to the upper and inner portion of the thighs, and walking exercise ; also give in the menstrual intervals, iron and quinia. (Rigaud).

4. R Ergotine gr. 1, Ext. Gossypii Herbacei gr. 1, Aloes gr. 1, Ferri Sulph. Exsic. gr. 1, Ol. Sabinæ q. s. M. ft. pil.
5. R Pil. Aloes et Myrrh. gr. $1\frac{1}{2}$, Pil. Assafoetid. Co. gr. $1\frac{1}{2}$, Ferri Sulph. gr. 1, Ol. Sabinæ min. $\frac{1}{2}$. M. ft. pil.
6. R Ext. Sarsæ, Rhei Pv., Aloes Soc., â â oz. 1, Capsici Pv., Curcumæ Pv., â â drs. 4, Valerian Pv. drs. 2. Mix in a sufficient quantity of Fel. Bovinus Pur. and form into ordinary pills. Females find great relief and final benefit by taking three pills a day particularly when near confinement. (Dr. Hamilton).

7. (Sp.) *Santonine* is a certain emmenagogue and often succeeds when other remedies fail. It is effective in exciting the menstrual flow that had been dormant for some months, as was found by me in two or three such cases.

8. For the list of other remedies *vide* **Emmenagogues.**

ANÆMIA AND CHLOROSIS.

1. (Sp.) Pil. Saline Chalybeate Tonic, Flint's.

R Sodii Chloridi drs. 3, Pot. Chloridi grs. 9, Pot. Sulph. grs. 6, Pot. Carb. grs. 3, Sodii Carb. grs. 36, Magn. Carb. grs. 3, Calc. Phos. præcip. grs. 30, Calc. Carb. grs. 3, Ferri Redacti grs. 27, Ferri Carb. grs. 3. M. Ft. tablets 60 or put in capsules, No. 60. Two, t. i. d. after meals. In the great majority of the cases of anæmia, etc., in which iron was strongly indicated, the tonic seemed to act much more promptly and favorably than the chalybeates usually employed. In a certain number of cases in which patients stated that "they could not take iron in any form," the tonic produced no unpleasant effects. (It was also employed in five cases of Chronic Bright's disease in adults in which the tonic seemed to exert an influence on the quantity of albumen in the urine). Austin Flint, M.D., L.L.D.

2. (Sp.) **Blaud's Pills.**—R Ferri Sulph, Pot. Carb. ã ã grs. 2, Glycer. Trgac. q. s. M. ft. pil. One pill after meals,

gradually increased to four or six pills, t. i. d. They are highly useful in Anæmia. These pills act best, if administered after removing the constipation by *Aloes* and *Salines* and then strengthening the stomach by *Soda* and *Calumba*. Dr. Niemeyer has used them for 20 years with brilliant success.

3. (Sp.) **Blaud's Pills (Improved.)**—R Ferri Sulph. Exsic. Pot. Carb. â â grs. $2\frac{1}{2}$, Acid Arsenious gr. $\frac{1}{40}$. M. ft. pil. One to two pills after meals. The arsenic furnishes anti-periodic virtues to the combination.

4. R Tr. Ferri Perchloridi drs. 2, Acid. Phosph. drs. 6, Sp. Limon. drs. 2, Syrupi ad ozs. 6. M. A dessertspoonful in water after meals. A *palatable form* for the administration of iron.

5. **Baby Salt.**—R Sod. Phosph. parts 60, Calc. Phosph. parts 10, Sod. Bicarb. parts 30, Ferri Lactas parts 5, Sacch. Lact. q. s. ad parts 200. M. One to two teaspoonfuls for adults and in lesser quantity for children. It may be suitably added to baby food, whether it be milk, pap, arrowroot, &c. A tonic or baby strenghtener, when babes or adults are suffering for want of nutrition or from wasting disease of any kind.

6. R Manganesii Sulph. Exsic., Quininæ Sulph., Ferri Sulph., â â gr. $\frac{2}{3}$. M. ft. pil. One t. i. d. A good tonic for persons who have resided in malarial districts, (also in adynamic conditions).

7. R Ferri Redact. gr. 1, Strychn. gr. $\frac{1}{24}$, Pepsini gr. 1, Bism. Subnitr. grs. 2. Ft pil. 1 to 2 pills after meals. In anæmia with gastric irritability.

8. R Pot. Chloratis gr. 1, Ferri Chloratis gr. $\frac{1}{2}$, Pulv. Podophylli gr. 1, Pulv. Myrrhæ gr. $\frac{1}{2}$. M. ft. pil. One to two pills t. i. d. For *Chlorosis in females*.

9. Prof. Rosenthal states that the subcutaneous administration of the peptonate and oleate of iron is advantageous in the cases of delicate neurasthenic persons who suffer, as such often do, from atonic dyspepsia. Here even small doses of iron taken by the mouth will sometimes produce disorder of the stomach.

10. Hydrarg. Perchl. 336, Revalenta Food. For further *vide* **Blood Tonics.**

ANÆSTHESIA.

Vide Anæsthetics.

ANEURISM.

Powell gives the following valuable tabular arrangement of the *pressure signs of aneurism* :—

Pressure on parietes causes.	{ Local pain. Local tumor (pulsation). Absorption of tissues.	
Pressure on nerve causes.	{ Radiating neuralgic pains. Paralysis. Asthmatic dyspnœa.	{ Unequal pupils, paralysis of vocal cords. Hemiplegia or paraplegia.
Pressure on vessels	{ Inequality of pulses. Obstruction of veins.	{ Local œdemas. Enlarged collateral veins. Paroxysmal dyspnœa.
	{ Tracheal signs.	{ Brassy cough. Bilateral stridor.
Pressure on air-tubes causes.	{	{ Also paroxysmal dyspnœa and cough: Unilateral stridor.
	{ Bronchial signs.	{ Filling and consolidation of the lung behind.
Pressure on œsophagus causes.	{ Dysphagia.	
Pressure on lung causes.	{ Consolidation, displacement.	

1. Long continued large doses of Iodide of Potassium or preferably Iodide of Sodium, with complete rest in recumbent posture. Daily quantity of iodides ingested being as much as 60 grs. Every morning give soap and water enema. Liquid food prohibited as far as possible. No sitting up permitted. For a complete cure a period of from 3 to 6 months is required. This treatment is best adapted to—1, abdominal aneurisms; 2, cases in which a small sac is pressing upon nerves or tubes; 3, larger aneurisms threatening to penetrate the parietes. In general, the more sacculated the aneurism and the more widely separated from the aortic valves, the better suited is it for this plan of treatment. Powell is opposed to galvanopuncture and the introduction into the aneurisms of foreign substances, such as iron wire or horsehair. He thinks the methods are wrong in principle, and also not without danger. *Vide* page 381.

2. **Moore's Treatment:**—It consists in exposing the aneurism and to pass a silver plated copper wire into sac, whereby a temporary occlusion of the vessel occurs. A traumatic aneurism of the abdominal aorta was exposed by laparotomy, and one yard and a half

of silver plated copper wire was passed into the sac. On the 10th day there was temporary occlusion of the left femoral artery; on the 51st day the patient was discharged well.

3. Antipyrin. Ergot, Exalgine for pain, Kaolin 432, Quebracho (592, Report 2.), Veratrum Viride.

ANGINA PECTORIS.

Acid Hydrocyanic Dil., Allyl Tribromide, Ammon. Valerian, Amyl Nitrite, Anhalonium Lewinii, Antipyrin, Arsenic, Belladonna, Cactus Grandif., *Convallaria Maj.* (222, Report. 1.), ether, Ethyl Bromide 255, Euphorbia Pilulif., Isapiol 761, *Iso-Butyl Nitrite*, Liq. Opii Sedat., Methylal, Nitro-Glycerine 507, Nitro-Glycerine Co. tableids 511, Pot. Iodide 381, Pyridin, Sodium Bromide, *Sodii-Nitris* 664, Sparteine, Strophanthus 688.

ANOSMIA.

1. R Pot. Iodidi grs. 2, Tr. Nucis Vom. mins. 5, Aquæ oz. 1. M.
To be given t. i. d. It should be given for a considerable period. If iodism is produced the iodides should be lessened in quantity, but not omitted. This is useful when loss of smell is due to a thickened mucous membrane which occludes the sensitive ends of the olfactory nerves.
2. R Strychnia gr. 1/24, Sacchari Pulv. grs. 2. M. To be used as a snuff t. i. d. If this small dose prove ineffective, increase it to 1/16 or 1/12 gr. Also strychnia may be given internally. It wonderfully increases the sense of smell, (while morphia impairs or deadens it.)

APHONIA AND HOARSENESS.

1. When due to acute inflammations, heat, moisture and sedation in the form of steam inhalations, external compresses, &c., are of service. As the acute stage passes off, astringent stimulants, in the form of sprays, lozenges, and occasionally powders are to be used. Chronic inflammation requires stimulation from the first. Stimulant sprays give the best result. Galvanism externally over the thyroid is of benefit. New growths when malignant almost

invariably demand removal by forceps, snare or cautery applied intra-laryngeally. In paralytic conditions, applications of faradic currents, one pole over the thyroid and other upon or near the affected muscle gives good results.

2. Soak a piece of thick blotting paper in a saturated solution of Nitre, and dry it; then brush it over with Tr. Benzoin. Co. A piece 3 inches long and $1\frac{1}{4}$ wide is rolled into a cigarette, and smoked.

3. Armoracia (infusion used as a gargle), Atropine, Nitroglycerine 509, Pyrethrum Ind., Saw Palmetto 650, Yerba Santa 743, 744.

APHTHÆ.

Argenti Nitr., Conf. Rosæ Gall., Glyc. Boracis, Myrrha, Pot. Chlorate and Borax tablets, Quinine (I.), Siegesbeckia 657, Sodii Hyposulphis 468.

APOPLEXY.

In treating it the patient requires to be bolstered up, the head kept high, and the blood kept out of the brain as much as possible. In the true apoplectic seizure, with even a moderately strong pulse, blood is to be taken from the arm freely, sixteen ounces or more. Simultaneously an aperient, which in the absence of consciousness must be one of which the dose is small, as $\frac{1}{6}$ gr. of Elaterium in pill or powder, or a couple of drops of Croton Oil in a teaspoonful of sweet oil or glycerine. A large enema, to which an ounce of turpentine is added, is useful. Ice to the head—an ice bag—may be of use. Of less service is counter-irritation to the nape of the neck or the temple by a blister.

ASCITES.

1. The *modus operandi* of the treatment of Dropsy by concentrated solutions of Cathartics has been already described under "Albuminuria of Cardiac Disease" at page 808. Dr. M. Hay, employed a saline cathartic in a case of Ascites from organic heart lesion. Sulphate of Magnesia in a dose of drs. 6 in 2 tablespoonfuls

of water was given, the patient was kept without food or liquid for at least 12 hours before the dose and no water was given afterwards. The result was that in 24 hours the anasarca was greatly diminished and the dyspnœa entirely disappeared, the purgative action of salt commencing in less than an hour after its administration, and causing several evacuations in the next few hours. In a few days dropsy had disappeared and there was no return during the month of observation.

2. R Elaterii gr. $\frac{1}{4}$, Ext. Colo. Co. grs. 2, calomel gr. $1\frac{1}{2}$, Capsici gr. $\frac{1}{2}$. M. ft. pil. Dose one pill.

3. R Elaterii gr. $\frac{1}{8}$, Podophyllin gr. $\frac{1}{8}$, Capsici gr. $\frac{3}{4}$, Pil. Colo. et Hyos. grs. $2\frac{1}{2}$, M. ft. pil. Dose: 1 to 2 pills.

4. Arsenic, Caffeine, Copaiba, Croton Oil, Digitalis, Iodine 384, *Jaborandi* 401, Milk diet, *Orthosiphon* 530, case 3, Shepherd's Purse, Squill, *Stillingia*, *Strophanthus*.

Vide Pleurisy.

ASPHYXIA.

The successful treatment of asphyxia depends upon the fact that the *heart continues to beat long after respiration ceases*, and upon this fact, too, depends the wonderful capacity for resuscitation which exists in those apparently drowned or otherwise apparently dead from suffocation. The first indication is, of course, to *supply oxygen*, the want of which is responsible for all the symptoms:—

1. (a.) If there is *obstruction of the air passages* by a foreign body, it must be *removed* or *tracheotomy* must be performed. (b.) If the action of the muscles of respiration is interfered with, the interfering cause must be removed. (c.) If the patient is in an atmosphere of *scanty oxygen* or of *irrespirable gases*, he must be *removed to fresh open air*. (d.) In slighter degrees of asphyxia, such as are seen in the *new born infant*, *slapping the face* with the bare hand or with a *wet towel*, or *dashing cold water* upon it, will often have the effect of exciting the breathing act and of *ærating* the blood. If these measures are insufficient, then *artificial respiration* must be practised by some one of the usual methods, as that of *Sylvester* or *Marshall Hall*. (e.) In apparent drowning, *faradization*

or galvanism of the *phrenic nerve* may be used, especially one pole being placed over the nerve as it crosses the scalenus muscle at the root of the neck, and the other at the epigastrium. (*Vide* 510, para. 11). (*e.*) In asphyxiation by *illuminating gas* hypod. injection of 1/50 gr. of *Nitro-Glycerine* is very valuable, as several lives were saved by this method (*Vide* 510, para. 12).

2. Oxygen Inhalation (531, para. 3).

ASTHMA.

1. (Sp.) Sulphate of Soda is found after 20 years' experience and after a trial of many remedies, to be the most prompt and satisfactory remedy for putting stop to a paroxysm of asthma. When the attack comes, which usually does in the night, when the lungs close, and the patient seems to be breathing as it were through dry metallic tubes, then he starts out of bed, seizes an handful (about half an ounce) of Glauber's salt and puts it into a tumbler of water, stirs and begins to sip it, and by the time he gets a fire kindled, moisture begins to start in the respiratory passages and the spasm relaxes. Having sipped a while longer and gotten nicely warm, he is able to return to bed. The next morning a cathartic action follows and he is about as well as before. The good effect is attributed mainly to the bitter and nauseous taste of the salt, which by reflex action, speedily starts the secretions in the lungs and relieves the spasm.

2. (Sp.) R Amyl Nitr. mins. 36, Alcohol Ethylici drs. 6, Glycerini pur. oz. $1\frac{1}{2}$. M. dr. 1 in a wineglassful of water to be swallowed slowly, and repeated every 2 hours.

3. (Sp.) R Tr. Lobeliæ drs. 4, Ammon. Benz. drs. $2\frac{1}{2}$, Aq. Distil. ozs. 7. M. A tablespoonful every 2 hours. A case of one year's standing was cured and also 3 or 4 other patients (Dr. Nunes).

4. R Ammon. Bromidi grs. 160, Ammon. Chloridi dr. $1\frac{1}{2}$, Tr. Lobeliæ drs. 3, Sp. Etheris oz. 1, Syr. Acaciæ ad ozs. 4. M. A dessertspoonful every 2 hours in water during the paroxysm of asthma.

5. R Chloral Hydrate grs. 30 to 40, Sodii Iodide grs. 25, Syrupi ozs. 5. M. A tablespoonful every 2 hours.

6. R Mist. Ammoniaci ozs. 3, Vin. Ipecac. dr. 1, Tr. Lobel. drs. 2, Glycerini oz. 1, Aquæ, ad ozs. 6. M. oz. 1. t. i. d. for an adult; dr. 1 to drs. 3 for children.

7. *Vide* F. 3 Bronchitis.

8. At the beginning of the attack, paint the inside of the nostrils, as high up as possible, with a camel's hair brush, dipped in a solution of *Hydrochlorate of Cocaine* in water (1 in 20.). If preferred the solution may be sprayed into the nose and throat for four or five minutes at a time. If it does not cause the attack to abort, the patient should be made to inhale the Pyridine.

9. Local application of induced current is the best remedy for cutting short an asthmatic attack. According as the seat of the disease appears to be in the higher or lower parts of the nerve, apply the electrodes to both sides of the neck under the lower jaw, about $\frac{3}{4}$ inch in front of the sternomastoid. The currents must not be too feeble. The patient must clearly perceive that the current goes straight through the soft palate or through the larynx. When the attacks are violent the current should be applied for $\frac{1}{4}$ or $\frac{1}{2}$ hour at least twice daily. As recovery takes place the application must be shortened until they are at length made once or twice a week.

10. Painting of *Lin. Iodine* over the pneumogastric nerves at the sides of the neck, gives relief.

11. **Hypodermic Remedies.**—(a.) Hypodermic injection of 1/50 gr. of *Strychnine* and 1/150 gr. of *Atropine*, daily, gradually increasing *Strychnine* to 1/25 gr. and *Atropine* to 1/100 gr. After a thorough impression is made on the disease, the drugs are administered every other day and are gradually discontinued. Six cases were cured. (Dr. Mays). (b.) Allyl Tribromide. (c.) Antipyrin 63. (d.) Cocaine gr. $\frac{1}{2}$ with Morphia gr. $\frac{1}{8}$. (e.) Cocaine Salicylate 197. (f.) Morphia and Atropine. (g.) Pilocarpine.

12. **Cigarettes and Fuming Inhalations.**—(a.) R *Datura Tatula* (leaves), *Stramonium* (leaves), *Cannabis* (herb), *Lobelia* (herb), â â drs. 6. Powder all and mix; then add, Pot. Nitrate oz. 1, Ol. Eucalypt. dr. $\frac{1}{2}$, both mixed together. Of this a teaspoonful to be burnt on a white paper in a saucer and the smoke

inhaled, or made into a cigarette and smoked, *It is the most effective remedy and even better than Himrod's cure.* I successfully employ it in my practice.

(b.) R Pot. Nitratis drs. 4, Pv. Anisi Fruct. drs. 4, Pv. Strammon. Fol. oz. 1. M. A thumbful of the powder placed on a plate is pinched into a conical shape, lit at the top and the fumes inhaled.

(c.) Eucalyptus leaves 258, 643. (d.) Eucalyptine 261.

(e.) Menthol 488. (f.) Mullein leaves 498. (g.) Pumiline 525,

(h.) *Sanitas Oil* 643. (i.) Yerba Santa 741.

13. **Simple Inhalations.**—Amyl Nitrite 45, Chloroform 169, Ethyl Iodide 256, Ethyl Nitrite, Iso-Butyl Nitrite, Pyridine 586.

14. *Other internal remedies.*—Acid. Camph., Acid Hydriodic, Æther, Ailanthus Glan., Ajowan seeds, Allyl Tribrom., Anemonine, Anhalonium L. 47, Antipyrin 63, Apomorphia, Arsenic, Atropine, Bellad., Borax (108, para 8. (b.)), Bryonia, Caffeinæ Hydrobrom., Calotrop. Gig., Cerii Oxalas, Chamomile, Coca, Codeia 204, Coffee, Conium, Drosera, Erythrophlœum, *Ethyl Bromide*, Eucalyptus Glob. 258, *Euphorbia Pilulif.* 275 to 81, Evening Primrose, *Grindelia Rob.* 309, Helenin, Hoang Nan, Hyoscyamine, Ichthyol, Iodoform, Ipecac, Jaborandi, *Lobeline* 468, *Methylal*, *Nitro-glycerine* 508, Ouabain, Pilocarpine, *Piscidia Ery.* 420, *Quebracho* 591, Sanguinaria, Scutellaria Lat., Saw Palmetto, *Sodii Nitris* 664, Strychnos Ignatii, Symplocarp. Foet., Tobacco, Viburn. Opulis, Warburg's Tincture, Yerba Santa 741.

Dietary.—Asthmatics, from necessity, become spare feeders, and are often very thin. In so many cases a heavy meat meal is followed by an attack that a restricted dietary is inevitable. To certain asthmatics certain articles are specially injurious, while to many others they are not so. The dietary which *suits most asthmatics best* is that which limits them to *two meat meals, viz., breakfast and lunch or early dinner*, and restricts their food for the rest of the day to liquids, with only bread, toast, or biscuits as solids; the great principle being that the asthmatic should retire to bed with gastric digestion quite complete, and thus preclude any pressure upward against the diaphragm from flatulent accumulations in the

stomach. When there is much *dyspepsia*, and especially where *flatulency* occurs immediately after meals, it is advisable to *omit sugar and starch* from the dietary and to *avoid potatoes*, and in these cases a little alcohol in the form of *whiskey. or brandy and water*, should be taken with lunch or dinner. *Coffee* is generally a suitable beverage, and should be taken at least once a day, black, as it distinctly lessens the spasm without rendering the patient sleepless, whereas *tea*, though it is a product of the same natural order of plants, acts in a different way and *often increases the neurosis*. Various meat extracts, such as Brand's and Valentine's, and strong beef-tea, especially when taken warm, are excellent, as they are easily assimilated, and enable the patient to get over the asthmatic attack without great prostration. All articles of food which are in themselves more or less indigestible, such as *pastry, pickles, uncooked vegetables, salads, garlic, fruit, except when perfectly ripe, cheese* in its various forms, and *richly dressed or highly flavored dishes*, are to be *strictly avoided*. (Dr. C. T. Williams).

BEDSORES.

1. R Bals. Peru dr. 1, Ung. Resinæ dr. 1. M. Apply on cotton wool to the part.
2. R Acid Sulphurous 1 part, Aquæ 2 parts. M. et ft. lotio.
3. Alum and White of Egg, Alcohol, Argenti Nitr. ointment, Collodion, Glyc. Amyli, Iodoform, Iodol, Oleum Hyperici, Ol. Sanitas, Quinine, Thymole ointment, Zinc Oxide ointment.

BILIARY (HEPATIC) CALCULI AND COLIC.

1. Rosenberg gave Sodii Salicylas in a case in 15 gr. doses t. i. d. in half a litre of water, and twice daily as a high rectal injection of 75 grs. dissolved in a litre of warm water. The result was excellent—gallstones appearing in the stools 24 hours after. *Vide* Pg. 524.

2. (a.)—In the morning before breakfast a tea or tablespoonful of Tartarate of Potash and Sulphate of Soda equal parts should be taken in a glassful of sweetened lemonade, and Lithia Water at dinner and supper. (b.) Moderate exercise. (c.) Frictions of the

skin stimulated by washing, repeated rubbings and shampooing with the hand moistened with a few drops of perfumed oil. (*d.*) To prevent formation of gallstones, Tartrate of Potash and Lithia should be taken for 10 days before meals. (*e.*) As for the dietary *vide* below.

3. Fresh Nettles (*Urtica Dioica*) crushed in a mortar, and a wineglassful of juice taken in the morning fasting. This is to be taken for a month in order to prevent the return of hepatic colic or biliary lithiasis.

4. R Hydrated Peroxide of Succinate of Iron grs. 10, *Aquæ Menthæ Pip.* oz. 1. M. Give t. i. d. This is said to be effective in dissolving gallstones.

5. Ether and Turpentine of each mins. 10 t. i. d. on sugar.

6. R Ext. *Stigmata Maidis Fl.* mins. 15, *Sodii Benzoas* grs. 10, *Lithiæ Carb.* grs. 6, *Syrupi* dr. 1, *Aquæ* ad oz. 1. M. Give t. i. d,

7. *Amyl Valerianate* 751, *Coffee (green)* 206, *Collinsonia Can.* 211, *Resorcine* 608, *Sodii Bicarb.* 660.

5. **Dietary.**—(*a.*) *Articles of diet discarded* from the dietary of patients suffering from biliary diathesis and calculi:—As these calculi are constituted almost exclusively of cholesterine and bile-pigment, and as excessive production of cholesterine is due to one of two causes,—either to a *diet too rich in fats* or to *overtaxing the nervous system*, you should suppress from the habitual dietary *all fatty substances, carbohydrates, sugars and starches* which may engender cholesterine; among starchy legumes, *peas* especially should be *discarded* because they contain a fatty body similar to cholesterine; also *sorrel, tomatoes carrots and sweet fruits*. Also avoid too excessive use of animal foods, never giving more than one egg per day to persons affected with gallstones; also fish, shell-fish, decayed cheese, pastry and heavy liquors.

(*b.*) *Articles of diet recommended*:—All kinds of meat in moderation are permissible, but should discard the fatty parts. A mixed diet of meat and fresh vegetables is beneficial. Among the starchy foods (which are to be avoided) *potatoes* can be allowed. All kinds of *fresh green vegetables and fruits containing excess of potash*

in preference to soda salts, are *permissible* ; *acid fruits* are to be *recommended* (but *sweet* to be *discarded*.) *Meals* should be *near enough* or taken *frequently* in order to keep the gall bladder at work, so that it may be frequently emptied. *Bread eaten in great moderation*. Allow *wine* well *diluted* with some alkaline waters as Vichy, Vals, &c. *Vide also Dietary in Gout*.

BILIOUSNESS.

1. *Pil. Alterativa* :—R Pulv. Opii gr. $\frac{1}{8}$, Pulv. Ipecac. gr. $\frac{1}{8}$, Pil. Hydrarg. gr. $\frac{1}{2}$. M. ft. pil. or triturate. In the beginning of all bilious attacks, characterized by mental hebetude and accompanied by headache, backache, discoloured conjunctiva, and a general feeling of *malaise*, this pill is very beneficial, as it allays pain, has a desirable effect on the liver, acts as a sedative to the stomach, and, by increasing the flow of bile to some extent and aiding materially in favouring the discharge of bile, it serves as a purgative. One pill should be given every hour, or, in some cases, when the patient is seen late in the day, it will be advisable to give one pill every half hour, until 4, 6, or more are taken and the result will be a purgative action on the following morning. When a more decided anodyne effect is desired two of these triturates may be given every hour. 10 or 12 of these pills contain a considerable quantity of opium, but that number can be given in the manner indicated without arresting the normal secretions. Single large doses of opium, on the contrary, cause more or less constipation by arresting secretion, and it becomes necessary to follow it with a purgative, but in this case purgative is combined with the opium itself, and, given in this way, the combination acts as a stimulant to the mucous membrane (J. Aulde, M.D.).

2. Acid Hydrocyan. D., Aloes, Berberis Vul. berries, *Berberis Vul.* and *Euonymin* 92, Bhawchee, Bismuth, *Boldo*, *Calomel* 340, Capsicum, *Cascara Sagr.*, *Cocculus Cord.*, *Collinsonia*, *Colocynth*, *Dioscorea Vil.*, *Euonymin*, *Fel Bovinum*, *Ferri Picras*, *Friedrichshall* Water, *Hydrargyrum*, *Hydrastis*, *Ipecac.* (small doses), *Iridin*, *Leptandrin*, *Naregamia Al.*, *Pil. Rhei Co.*, *Podophyllin*, *Pot. Permang.* 551, *Rhubarb*, *Saccharine*, *Sodii Bicarb.*, *Sodii Taurochol.*, *Stillingia*, *Victoria Water*.

BITES OF VENOMOUS REPTILES, INSECTS, &c.

1. **Snake Bite.**—As soon as possible after a person is bitten by a snake, apply a ligature made of a piece of cord or an elastic bandage, round the limb or part at about 2 or 3 inches above the bite. Introduce a piece of stick or other lever between the cord and the part, and by twisting, tighten the ligature to the utmost. (Esmarch's bandage may be substituted for the ligature if it be immediately procurable.) After the ligature has been applied, cut the punctures to the depth of $\frac{1}{4}$ inch with a pen knife or other similar cutting instrument; let the wounds bleed freely; or better still excise the punctured part and all the infiltrated cellular tissue subjacent to it. Apply either a hot iron or a live coal to the bottom of these wounds as quickly as possible or inject into the subcutaneous cellular tissue a solution of *Permanganate of Potash* (5 per cent.), or some *Carbolic* or *Nitric Acid*. If the bite be where a ligature cannot be applied, with a sharp pen knife cut out the bitten part and all the infiltrated cellular tissue to the depth of $\frac{1}{4}$ or $\frac{1}{2}$ inch. Then apply the hot coal or hot iron to the very bottom of the wounds or better the *Permanganate of Potash*. Give 15 drops of *Solution of Ammonia* diluted with an ounce of water immediately and repeat it every $\frac{1}{4}$ hour for 3 or 4 doses or longer if symptoms of poisoning appear. Or give hot brandy or rum or whisky or spirits with equal parts of water, about an ounce of each (for an adult) at the same intervals. Suction of the wounds is not likely to be beneficial, and as it may be dangerous to the operator it is not to be recommended. If symptoms of poisoning set in and increase, if the patient became faint or depressed, unconscious, nauseated or sick and respiration begins to fail, with symptoms of paralysis of tongue and fauces, apply mustard poultices, or solution of ammonia on a cloth, over the stomach and heart; continue the stimulants and keep the patient warm, but do not shut him in a hot, stifling room or a small native hut—rather have him in the fresh air than do this. Chronic or milder cases must be treated on the same and general principles. Do not make him walk about if depressed; rouse him with stimulants, mustard poultices or ammonia, but let him rest. (Sir Joseph Fayrer, K.C.S.I., F.R.S.).

2. Dr. J. B. Shaw gives hypodermic injection of Sp. Ammon. Aro. 60 mins. Orders 1 oz. of whisky every 2 hours and a large

poultice of bruised raw onions to be applied to the part and to be renewed every hour. The whisky and onions to be kept up until the child is well. The above has been his treatment for the last 6 years and he has never lost a case.

3. Dr. E. Duges describes three cases of rattlesnake bites. (1) Treatment: *Injection* of four grammes of a concentrated solution of *carbolic acid*; *internally, jaborandi and infusion of coca*; *massage with camphorated oil*; next day, ligature removed; good food. When the wound, which was on the left hand, was inflicted, the man, who was seventy years of age, immediately ligated his left arm above the waist and went to the doctor. Considerable œdema of the hand ensued. Superficial incisions were made, with profuse bleeding. Gangrene of the skin on the back of the hand followed. Recovered in one month. Second case, man, sixty years old; bite over right ankle; immediate ligature; same injection; advised to get drunk, which he gladly did. Next morning all right. Third case, man, thirty-seven years old; bite on right little finger; ligature; same injection twenty-four hours after accident; plenty of brandy. Next day much better; much œdema; incisions; poultices of *Datura stramonium* and mercurial ointment. Recovered on the eighth day. The considerable quantities of carbolic acid produced no constitutional symptoms; the blood was quite thin.

4. Petroleum (Kerosine) Oil is a simple and very effective remedy for removing the pain and swelling as a result of scorpion bite when rubbed over and around the bitten part.

Insect Bites or Stings.—(a.) R Tr. Tabaci parts 200, A. Boracic 6, A. Salicyl. 12, A. Carbol. 6, Oil of Melissa (Balm) 1. M. A wash for stings of insects.

(b.) R Collodion Flexile parts 10, A. Salicyl. 1. M.

(c.) R Collodion. Flex. parts 1000, Corr. Subl. 1. M.

5. Other remedies for bites of Venomous Reptiles, Insects, &c., are: *Cedron* 155, *Cocklebur*, *Eupator.* *Ayap.*, *Grindelia* Rob. 311, *Guaco* 313, *Ophioxylon*, *Pot. Permang.* 553, *Sanitas Oil* 645.

BLENORRHAGIA (BLENORRHŒA.)

1. R Terebinth. Alba grs. $1\frac{1}{2}$, Camph. Monobrom. gr. $\frac{3}{4}$, Ext. Humuli gr. $\frac{3}{4}$, Res. Podophyl. gr. $\frac{1}{8}$. M. ft. pil. One to two pills for

a dose. It is the remedy *par excellence* for Chronic Blenorrhœa, uncomplicated with organic stricture, very frequently effecting a speedy cure in gleet of long standing. (It is also almost equally serviceable as a remedy for cystorrhœa and inflammation of whatever kind affecting the urinary or sexual organs. These pills have been used successfully in the treatment of Chronic Gastritis ; in fact they are indicated wherever inflammation of the mucous membrane of internal organs exists).

2. Boldo, Cocaine (192 C.) Jurubeba, *Kava-kava* 434, *Manzanita*, *Salol*, 633.

BREATH, (FŒTID OR FOUL.)

1. R Pot. Tart. Acid. drs. 4, Cretæ Prep. drs. 4, Myrrhæ Pulv. dr. 1, Iridis Flores Pv. dr. $\frac{1}{2}$, Cinchonæ Pv. drs. 2, M. ft. dentrifice. To be used twice a day for fœtid odour from the mouth.

2. Acid Carbolie gargle, *Acid Carbolie and Glycerine lozenges*, *Eucalyptus gargle and lozenges*, Pot. Chlorate and Borax lozenges, Pot. Permanganate gargle, Sanitas Oil, *Sanitas Fluid* 647, *Thymole*.

BROMIDROSIS OR OSMIDROSIS.

1. (Sp.) Paint the feet, after they have been thoroughly washed and dried, by means of a camel hair pencil, with a 5 to 10 per cent. *solution of Chromic Acid in water*, a short time before retiring to bed. In many cases a single application is sufficient ; however 2 or 3 applications will suffice to obtain a cure, allowing an interval of 8 to 14 days to elapse, when the hardened epidermis will have to cast off. Chromic Acid acts more promptly than any other remedy and of equal efficacy with Salicylic preparations.

2. Soak a pair of socks in a saturated solution of boroglyceride ; let them dry, wear them for a day or two (according to the amount of perspiration) and then change for another pair similarly treated. The fœtor, so disagreeable a feature of these cases, disappears, and the perspiration will decrease in a few day. This method has had the best results in my own practice and in that of others in the treatment of profuse perspiration of the feet (Dr. Mansel Sysmpson).

3. Bathe and thoroughly wash the feet in a solution of 2 to 5 p. c. of Carbolic Acid, repeat this at first daily and afterwards 2 or 3 times a week. Well washed stockings are then to be put on, which have been dusted with a powder composed of Salicylic Acid 3 parts, Benzoic Acid 2 parts and Tale powder 95 parts. The interior of the shoes must also be thoroughly dusted with this powder. The stockings when removed must be placed for 12 hours in Carbolic Acid water and then thoroughly washed. In this way, the bacteria which caused this foetid secretion may be destroyed and without such a disinfection a cure is not possible.
4. R Chloral Hydratis parts 10, Aquæ parts 100. M. To envelope the feet in towels saturated with the solution. *For malodorous foot sweats.*
5. R Naphthol parts 5, Glycerine 10, Alcohol 100 M. Moisten the affected parts once or twice daily with it, and afterwards dust them, either with pure starch or with a mixture of Naphthol parts 2 and starch 100. *An effective remedy against excessive foetid sweating of the palms of the hands, foot-soles and axillæ.* In the case of sweating feet, small pellets of antiseptic cotton are dipped in the powder and placed between the toes.
6. R Acid Salicyl. parts 5, Alum Exsic. parts 45. M.
7. Acid Boracic, Naphthalin, Oleat. Zinci 518, Pilocarpine 409, Pot. Permanganate (1 per cent solution), Tr. Bellad. in a lotion, Vinolia.

BRONCHITIS.

1. *Notes on the treatment of Bronchitis in young children :—* Depletion is usually not well borne but in robust children leeching is sometimes of service in the onset of attack and is distinctly less dangerous than the free use of Antimonials, Veratrum, and other equally powerful depressants. The jacket poultice is of more value than medicines but of course its use does not preclude internal treatment. It should be made by cutting a piece of heavy flannel into a parallelogram of such size and shape as when doubled and sewed into a sort of bag, to completely envelope the chest. Tapes may be sewed on the ends and top so as to be tied in front and also over the arms. Immediately outside the

poultice should be placed oiled silk or muslin and care should be taken that the poultice be not so wet as to drip. The best material of filling is flax seed meal, to every 4 table-spoonfuls of which one or two teaspoonfuls of mustard flour may in most cases be added with advantage. When there is fever the heat of poultice is kept up by the high temperature of the body so that it may be left on for 12 or even more hours, unchanged. After the poultice, or at any rate the skin threatens to become sore, cotton or woollen batting may be applied to the chest, and when it is covered with oiled silk, it often becomes so damp, as to act almost as a poultice. When there is a marked *tendency to nervous collapse*, the *garlic poultice* is almost invaluable. It should be made not out of too old garlic and mixed with about their own bulk of flax seed meal; as it is desirable to favour absorption of oil, the poultice mass should be in immediate contact with skin.

In regard to medication, the *Citrate of Potassium mixture* is often of great service in the beginning of disease. It acts on very young children as a *distinct depressant* and must not be used for too long a time. When the *ammonia salts* are used, they must be given at very short intervals, as the action of the individual dose is very brief one. In the *advanced stages* of the disease, an old fashioned but a very valuable remedy is *Syrup of Garlic*, and when the stomach will bear it, the *Oil of Eucalyptus* is often of great value; when there is *adynamia*, *Oil of Turpentine* sometimes acts most happily. When there is *tendency to weakness*, *stimulants* are very well borne by children including milk punch and other *alcoholic foods* as well as *Digitalis*. When *digestion fails*, give artificially digested foods as *pancreatized milk*. In this disease *Quinine* is *valuable* and it is also well borne by the children but *harm* is done by giving *large doses* as some do give. *Three grains* a day ought to be the *maximum dose* for a child *one year* old, *not* suffering from a *malarial* affection. In *desperate* cases, where there is no hopes, the child is *comatose and gasping for breath* from the accumulated carbonic acid in the blood, the heroic treatment for *saving the life* is to *plunge the child alternately in basins of hot and ice cold waters*; by this, many lives were saved.

2. *Chronic Bronchitis in children*.—In chronic bronchitis, pulmonary emphysema, with or without attacks of asthma, Carbolyzed

fumigations (*Vide* Bronchorrhœa), fumigation of essences of Thymol or even of Eau de Cologne, the internal use of the different balsams and Arsenic, and cutaneous applications of various revulsives are the means which are employed with best effect. (a.) *Fumigation*, as indicated above, night and day, in the chamber of the child. (b.) *Syrup of Quinine* grms. 300, with *Arseniate of Sodium* centigrms. 5 to 10 Of this mixture a tablespoonful each day. (c.) *Cod-Liver Oil*. (d.) *Tr. Iodine* applied to the chest, and some *vesicant* on the arm. (e.) *Syrup of Turpentine*, one spoonful daily and *Encalyptus* in the form of an *infusion* of the leaves. (*Vide* pg. 258.) By some such treatment as the above the author claims that children suffering from chronic bronchitis may be cured, even although they be greatly reduced and appear to be subjects for pulmonary tuberculosis. As diet, he recommends milk, the fatty vegetables, roast meats, goose fat and fat ham ; and as drinks, the extract of malt and the wine of quinine, or brandy and water.

3. R Apomorph. Hydrochl. gr. $\frac{1}{16}$ to $\frac{1}{32}$, Ammon. Salicyl. gr. $\frac{3}{4}$, Syrupi dr. $\frac{1}{2}$, Aquæ dr. $1\frac{1}{2}$. M. To be given every 2 or 3 hours. The dose varying according to the age of the child. Has been successfully employed in 150 cases of *Capillary Bronchitis*, (membranous croup, &c.,) *Vide* also Pg. 67.
4. R Acid Hydrobrom. mins. 80, Vin. Ipecac mins. 100, Tr. Bellad. mins. 40, Acid Hydrocyan. Dil. mins. 4, Syr. Scillæ drs. $1\frac{1}{2}$, Glycerine q. s. ad ozs. 2. M. Cujus cap. coch. min. J. 2. dishoris. *In Acute Bronchitis*.
5. R Ol. Lini drs. 15, Ol. Gaultheriæ mins. 15, Ol. Cinnamoni mins. 15, Glycerine drs. 10, Syrupi drs. 10, Aquæ ozs. 3. M. et ft. emulsio. Acid Hydrocyan. D. mins. 18 and Chloral Hydrate grs. 12, may be added to this in suitable cases. A teaspoonful to a tablespoonful or more every 3 hours. For Congestive Bronchitis, the Bronchitis of Heart Disease and Senile Bronchitis ; (also for Bronchial asthma and Asthma due to changes in the weather. (W. H. Thompson.)
4. Syrup of Tar in doses of 2 to 4 drs. every 3 hours is very effective in Winter Cough and Chronic Bronchitis. Its effect is enhanced by the addition of 6 mins. of Liq. Apomorphinæ B. P.

5. **Ayer's Cherry Pectoral.**—R Morph. Acet. grs. 3, Tr. Sanguinariæ Can. drs. 2, Vin. Antim. Tart. drs. 3, Vin. Ipecac. drs. 3, Syr. Pruni Virg. ozs. 3. M. 1 to 2 fl. drs. for an adult.
6. (Ind.) R Violæ Odoratæ drs. 6, Althæa Off. carpels drs. 10, Zizyphus Vul. fruct. No. 20, Ficus No. 5, Codiae Latif. fruct. No. 10, Glycerrizæ Rad. drs. 3. Aquæ ozs. 60. Boil till it is reduced to ozs. 20. 1 to 2 fl. ozs. t. i. d. In Acute Bronchitis, Catarrh, &c.
7. (Ind.) R Adhatodæ Vas., Coccul. Cordif., Solani Jacquini, Uvæ, â â drs. $1\frac{1}{2}$, Aquæ fl. ozs. 16. Ft. Decoct. 1 to 2 fl. ozs. with a teaspoonful of honey every 4 hours. In Chronic Bronchitis (and Emphysema).
8. Cannabis 138, Cocillana 202, Creasote, Eucalyptus Glob. 258, Eucalyptine 260, Eucalyptus Honey, Euphorbia Pilulif. 275 to 80, Grindelia Rob. 309, Gurjun Oil 316, Jaborandi 402, Jamaica Dogwood 419, Menthol 487, Pilocarpine 408, Quebracho 590, Sanitas Oil 642, Terebene 702, Terpene Hydrate 705, Yerba Santa 741 to 42, Warburg's Tincture 734.

BRONCHOCELE (GOITRE.)

1. (a.) *Simple Goitre* (enlargement of the thyroid gland) of recent origin and occurring in *young persons*, can in the *absence of endemic influences*, generally be cured by the administration of *Iodide of Potassium* and in many cases by the *counterirritations*. (b.) *Fibrous goitre* is best treated by *parenchymatous injections* of *Tr. Iodine*. (c.) *Cystic goitre* can be most readily cured by *conversion* of the cyst into a *chronic abscess*, which is effected by emptying the sac, injecting a small quantity of *Liq. Ferri Perchl.*, and allowing it to remain in the sac for 3 or 4 days. (d.) When the cyst is of considerable size it should not be emptied at once, but should be tapped 2 or 3 times before the injection is used. (e.) Removal of the thyroid body is a dangerous operation which should never be performed for mere cosmetic purposes, nor even for the relief of urgent dyspnœa except when the less radical means have failed. These conclusions of Dr. Makenzie do not embrace the exophthalmic goitre, but the simple bronchocele.

2. Electrolysis for Cystic Goitre.—This cures more rapidly than, and is devoid of inconveniences of, other modes of treatment.

CASE 1.—A female with cystic goitre of right lobe $1\frac{1}{2}$ inch in diameter. Aspirated on three occasions and blood and serum drawn. Finally an electrolysis needle was introduced into the sac, the opposite pole being placed over the tumour and a current of 6 to 10 Leclanche's cells passed for about 10 minutes. The operation was repeated four times. The cystic portion was entirely cured, and remained so cured for 3 years afterwards.

CASE 2.—A man with cystic goitre of several years' duration, in the right lobe about $2\frac{1}{2}$ inches in diameter. The cyst was aspirated, and three ounces of thin dark blood drawn off. It was injected several times with solution of Carbolic Acid and Glycerine, varying in strength from 5 to 15 p. c. This treatment was of little or no benefit. Two platinum needles were then introduced into the cyst about an inch and a half apart, and a current from diamond carbon cells passed through them for 20 minutes. After four such applications the cyst had quite disappeared, and a month later, when the patient was last seen, he continued well.

3. (Sp.) R Liq. Arsenic mins. 5, Pot. Iodi grs. 12, Aquæ ozs. 3. M. $\frac{1}{3}$ part t. i. d. Also inject Liq. Arsenic as described at Pg. 69.

4. (Sp.) Injection of 20 or 30 mins. of a 5 per cent. solution of Carbolic Acid once or twice each week into the substance of the gland itself, is a simple and almost painless procedure which has cured hundred cases.

5. Tr. Veratri Virid. in doses of 3 drops morning and evening and gradually increased until the full dose possible to toleration was obtained, viz., 12 drops, which were given for 12 months. A case of 12 years' standing has been cured, after having been under treatment by various means without any effect.

6. Acid Hydrofluoric 13, Acid Hydriodic, Ammon. Fluoride, Banana Root, Calc. Chloride, Ergotine (both internally and hypodermically), Ferri Bromide, F. Fluoride, F. Iodide, Iodoform (I. and E.), Opium, Pot. Bromide, Ung. Hydrarg, Iod. Rub. (E.)

BRONCHORRHŒA.

1. Five parts of Carbolic Acid dissolved in an equal quantity of alcohol, to which six parts of Liq. Ammonia and ten of water are afterwards added makes a good inhalation in chronic bronchial Catarrh.

2. Punica Granatum 584, Rhus Aro. 617, Sanitas Oil 642, Terebene 701 to 2, Terpene Hydrate 705, Yerba Santa 742.

BUBO.

1. **Kerns Cataplasma.**—This is a local remedy recommended by Prof. Busch for producing the resorption of buboes (and of malignant lympho-sarcomas of the neck). It is made by mixing one part of powdered black mustard with 4 or 5 parts of soap. It is enclosed in thin gauze, and applied over the tumour, where it is allowed to remain from 4 to 12 hours. The skin becomes erysipelatous and is dressed, after the removal of the poultice, with vaseline and cotton. Following the application the tumour softens and disappears.

2. Acid Carbolic 9, Acid Salicyl., Beta-Naphthol, Camph. Phenique, Iodoform, Iodol, Jaborandi 405, Naphthalin, Pot. Permanganate 552, Resorcine 610.

BUNIONS.

1. First wash the foot with soap and water and then dry it; protect the healthy skin surrounding the bunion, by means of a layer of flexible collodion, then saturate the bunion with crystallized carbolic acid, melted by heat. Blot up the superfluous acid with wool or bibulous paper. Renew applications every 3 or 4 days and one or two applications generally suffice to effect a cure.

2. Equal weights of Empl. Plumbi and Empl. Saponis spread on amadou and applied on bunion.

3. F. 3. **Corns.**

BURNS AND SCALDS.

1. Prick the existing blisters and remove the contents by wadding dipped in starch or by sterilized water, and immediately cover them with a 10 p. c. mixture of Pot. Sozoiodol and Starch or Venetian

Tallow, and then fasten them up with a padded bandage, the most favourable are seen in 24 hours. The process of healing goes on without any trace of suppuration. Not only burns caused by heat and flame are healed by this, but also such wounds as have been caused by a corroding fluid.

2. The bullæ should first be cut away and the wounds gently washed with a very weak solution of table-salt, then several layers of iodoform gauze are placed on the burn, the whole covered with a layer of oilskin. The first dressing should not be changed before the end of the first, or even second, week. When the burn is situated on the face a pomade of iodoform of 1 in 20 should be applied, covered with oil-silk. (M. Schiff).

3. Iodoform gives very good results in the treatment of burns *au debut* before the eschars have become detached, but when that stage, arrives Iodoform prevents the granulations from being covered with epithelium. Resorcin, on the contrary, in a solution of one or two per cent., favors the rapid formation of epithelium (M. Hebra).

4. Powdered Ice made into a paste with fresh lard, and used as a dressing for burns or scalds, instantaneously relieves pain. *Vide* also Pg. 363.

5. R Collodion part 1, Ol. Ricini parts 2. M. Best application for superficial burning, as in the case of a foolish person searching for an escape of gas with a light and getting an explosion on his face.

6. R Argent. Nitr. grs. 10, Aquæ oz. 1. M. For small superficial burns.

7. Aluminii Oleate, *Amyl Hydride* 43, *Aristol*, *Cocaine with Lanoline*, *Eucalyptus Oil*, *Grindelia Rob.* 311, *Ichthyol* 371, para 13, *Jamaica Dogwood* 422, para 13, *Menthol* 491, *Quebracho* 591, *Resorcine* 612, *Sanitas Oil* 644, *Sodii Bicarb.* 658, *Thiol* 708, *Thymol*.

CALCULI (*Urinary*).

1. R Magn. Carb. grs. 15, Acid Citric drs. 4, Borate of Soda drs. 4, Aq. Ferment. q., s. ut solvuntur. This solution is spread on a

glass for evaporation, giving a salt in laminas which is the Borocitrate of Magnesia and Soda. Dissolve 15 grs of the salt in an ounce of syrup, of which 1 to 3 tablespoonfuls may be given every day. Under its administration a good deal of white and yellow sediments, which is of calculus, appear in the urine. Two cases having a large calculus in the bladder were treated by it.

2. Hydrangea, Orthosiphon 530, Pichi 568, Sodii Hippuras 663, Stigmata Maidis 682.

Vide. **Lithonlytics, Lithontriptics, &c.**

CANCER.

1. R Papain grs. 3, Thallin grs. 2, Glyc. Tragac. q. s. M. Ft. pil.
One every 3rd or 4th hour, and if well tolerated the dose to be increased to 2 pills. The same proportion of the two drugs may also be applied externally.

2. Arsenic part 1, Carbo Ligni part 1, Red Sulphuret of Mercury part 1, Aquæ q. s. This arsenical paste is to be applied after the surface of the cancer has been laid bare by the application of caustic potash.

3. **Bougard's Paste** :—R Wheat flour parts 60, Starch 60, Arsenic 1, Cinnabar 5, Sal Ammoniac 5, Corr. Subl. 0.50, Liq. Zinci Chloridi. 2.45. Separately ground and pulverize first six ingredients and then mix together in a glass mortar. Then slowly add Zinc solution keeping the contents of the mortar rapidly moving by means of a pestle. For *Epithelial Cancer*.

4. Acetic Acid has been employed in 8 cases of Epithelioma of Face with excellent results. It should be employed in 50 p. c. solution daily until the crust formed is about to fall off; repeat application until finally a cicatrix results (Arnozon).

5. In epithelioma of the tongue, in several cases a cure was effected by the application of a concentrated solution of Chromic Acid; in one of these at least one-fourth of the tongue had been eaten away. In using the acid in the mouth I always neutralized it with Bicarbonate of Potash after each application. (Dr. Lowe).

6. Acid Chromic 10, Alvelos Milk (as a cauteriser), Aristol 754, Berberis Aquif. (L.) Bromine 117-18, Carbon Bisulphide 144, Condurango 213, Conium, Con. Hydrobrom. 215, Iodoform 392, Iodol. 396, Ol. Arsenic, 516, Pepsin 548, Pot. Chloras, Phytolacca 565, Resorcine 612, Rumex Crisp. 621, Sanitas Oil 642, Terebinth. Chio 704, Ung. Strammonii (Externally for relieving pain).

Vide Anodynes, Antiseptics and Caustics.

CANCER ORIS.

1. First cut away the slough and then swab the surface freely with a 1 in 500 solution of Corr. Subl., and subsequently dress with lint kept constantly wet with a similar solution of a strength of 1 in 100. Internally give tonics and stimulants. Under this treatment 3 severe cases have been cured.

2. Lycopersicon 468, Eucalyptus Oil 265.

CARBUNCLES AND ANTHRAX.

1. (Sp.) Ipecacuanha applied in the form of a paste with water is a specific for carbuncles of the back and anthrax of the arm. After the slough has separated, dress it with Ung. Resinæ and give internally: R Ipecac. grs. 5, Morphine gr. $\frac{1}{8}$, Ext. Gent. q. s. M. Ft. pil. To be given every 4 hours. This treatment is the *specific for Carbuncle*, just as Quinine is for Ague and Mercury for Syphilis.

2. (Sp.) R Calc. Sulphidi gr. $\frac{1}{2}$, Ferri Carb. grs. 4, Ext. Gent. q. s. M. Ft. pil. 1. One pill t. i. d. Apply linseed poultice over the carbuncle. This is as effective as the above.

3. (Sp.) R Glycerini grms. 15, Acid. Carbol. grms. 3, Aquæ Dist. grms. 15. M. et ft. injectio. These injections were practised, by Prof. Verneuil, at 5 different points circumscribing the inflamed region. Many cases of carbuncles have been thus cured, and this treatment is now generally adopted in all London hospitals.

4. (Sp.) Dr. A. P. Voskresensky has successfully treated 16 cases of *malignant pustule* (*Anthrax*) on the face or upper extremity during a period of 4 years as follows:—Externally a $2\frac{1}{2}$ per cent

carbolic solution (about 6 drs. of it) was injected around the pustule and into the adjacent apparently healthy zone a 5 or 6 per cent. along the margin of the lesion, and a 50 per cent. one deep into the middle of the pustule. About 12 grs. of acid introduced subcutaneously within 10 minutes. In 10 cases injections were repeated on the next or third day; in the remaining six any further injection seemed to be superfluous. Internally a solution of 4 or 8 grs. of the acid in 6 or 8 ozs. of peppermint water, was given in tablespoonful doses every 2 or 3 hours for 3 days. Average individual dose being $\frac{1}{2}$ gr., and daily one 8 grs. Within from 1 to 3 days the pustule transformed into a benign abscess, all swelling simultaneously melting away.

5. Dr. Vladinur N. Barkoff warmly recommends the following plan of treatment of *Anthrax*:—Having made a free crucial incision into the pustule, he cauterizes the wound with pure crystallized *Carbolic Acid* and subsequently covers the part with a thick layer of *Grey Mercurial Ointment*. In addition he orders to make inunctions with the same salve around the pustule, repeating them thrice a day (the daily dose of the ointment should be not less than 1 oz). Besides he prescribes internally:—R Acid Carbol. grs. 6, Aquæ Dist. drs. 4, Syrupi dr. $\frac{1}{2}$, a tablespoonful five times a day. To prevent mercurial stomatitis, the patient should rinse his mouth with a solution of Chlorate of Potash several times daily. Three cases of severe type have been successfully treated.

6. Empl. Galbani, Empl. Plumbi, Ceræ Albæ, â â. ozs. 4, Ext. Opii Liq. dr. 1, Ol. Olivæ ozs. 20. Melt together and add honey oz. 1. An excellent application for carbuncles, (also for boils, piles, &c.

7. *Helenin* 324, Hydrarg. Perchl. 337, Hydronaphthol, Iodoform 392, Iodol, Pot. Chloras.

Vide Furunculosis.

CARDIAC DISEASES.

1. Nervous Palpitations of Heart.—(a.) During the *paroxysm* of palpitations cold applications to the region of the heart, provided they are, what is not always the case, well borne by the

patient. A solution of *Bromide of Sodium* 15 to 30 grs. to be given either at once or in two doses. I also give the patient *Aqua Laurocerasi*, with equal parts of *Tr. Valerian* or (*Tr. Cannabis* or *Tr. Castor*) to be taken in doses of 5 to 10 drops every few minutes. In frequently returning paroxysms a powder consisting of *Bromide of Sodium* (grs. 7) with *Quinine* ($1\frac{1}{2}$ to 3 grs.) to be taken t. i. d. before each meal, and *Fowler's Solution* (5 to 10 drops in a teaspoonful of water after the meals). Application of *Electricity* gives good results : place the *anode in the neck* in the region of the nerve trunks and the *Kathode on the apex*. After a couple of minutes considerable decrease in the frequency of the apex beat (10 to 30) is noticed. Medicinal waters chiefly of *Iron* are very useful to be recommended in these affections: It is an indisputable fact that Iron exercises a tranquilizing influence upon the action of the heart not only in nervous palpitations but also in developed cardiac defects even in incomplete compensation.

(b.) Other remedies for palpitations are : *Acid Hydrocyan. D.*, *Acid Hydrobrom. D.*, *Atropine*, *Bellad.*, *Camph. Monobrom.*, *Cactus Grandif.*, *Chloral Cyanhydrate*, *Coca* 180, *Convallaria* 219, *Euphorbia Pilulif.*, *Hyoscyamus*, *hyoscine*, *Opium*, *Pot. Chlorate.*, *Prunus Virg.*, *Rubus Cham.*, *Stigmata Maidis.*, *Veratrum Viride* 718, *Linc Cyanide* 746.

2. Other remedies for heart diseases are : *Anhalonium L.* 47, *Adonis Vern.* 26, *Cactus Grandif.* 124, *Caffeine Citr.* 127, *Convallaria* 218, *Digitalis*, *Ergot* 245, *Erythrophloeum* 251, *Grindelia Rob.* 310, *Iodides* 381, *Nitro-glycerine* 508, *Nux Yom.* 513, *Ouabain*, *Quebracho* 591, *Prunus Virg.* 580, *Rubus Cham.*, *Sparteine* 672, *Stigmata Maidis* 684, *Strophanthus* 688 and 690, *Veratrum Vir.*

3.—CLASSIFICATION OF CARDIAC REMEDIES.

(a.)

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PARTS ACTED ON.	EXCITORS.	PARALYSERS.
<ol style="list-style-type: none"> Cardiac Muscle. Cardiac Motor-Centres. Cardiac Inhibitory Centres. 	<ol style="list-style-type: none"> 1. Digitalis, Iodol (s. d.), Camphor, Caffeine. 3. Muscarin. 	<ol style="list-style-type: none"> 1. Digitalin (2nd effect), Emetin, Copper, Barium and Potassium salts, Chloral in large doses, Scillain. 2. Saponin, (last effect), Iodol in large doses.
<ol style="list-style-type: none"> Intra.-cardiac Plexus of Inhibitory fibres of Vagus. Trunk of Vagus. Plexus of accelerating fibres of Sympathetic. Inhibitory centre of Medulla. Vaso-motor centre. 	<ol style="list-style-type: none"> 4. Nicotine, Pilocarpine (both 1st effect.) Calabar Bean. 5. Aconitin, Nepalín. 6. Apomorphia. 7. Digitalin. 8. Pot. Bromide. 	<ol style="list-style-type: none"> 3. Atropia, Fabarin, Spartein, (large doses), Pilocarpine (2nd effect.) 4. Pilocarpine (secondary effect). 5. Sparteine, Nepalín (2nd phase.) 6. Spartein. 7. Chloral, Croton-Chloral Hydrate. 8. Prussic Acid.

- (b). Strophanthus, Hellebore, Digitalis, Erythrophloëine, Antiar and Oleander, act on the myocardium. (b.) Adonidin and Convallaria act both on myocardium and innervation of the heart. (c.) Caffeine and Spartiene act on innervation only of the heart.

CATARRH (NASAL) OR CORYZA.

1. R Quin. Sulph. grs. 18, Liq. Arsenic. mins. 12, Liq. Atropine min. 1, Ext. Gentian. grs. 20, Pv. Gum. Acaciæ q. s. M. ft. pills 12. One every 3, 4 or 6 hours according to circumstances. This combination is almost a *specific for aborting common colds if commenced in early stage while it is still confined to the nose and pharynx*. At starting one pill may be given every 3 or 4 hours, and later on, every 6 hours.

3. **Neurotic Treatment**:—At the first onset of cold give 40 or 60 grs. of Pot. Bromide in water and repeat it in 6 hours and again if necessary 6 hours later. Meanwhile as soon as a flux commences give 20 mins. of Tinct. Belladonna in water every hour or two, until throat feels somewhat dry. If there be much irritation and pain, painting of nasal mucous membrane with a 4 p. c. solution of Cocaine gives great relief and even will arrest a cold by itself.

4. R Liq. Opii Sedat. mins. 15, Vin. Ipecac. mins. 5, Sp. Ether. Nitr. dr. 1., Liq. Ammon. Acet. drs. 3, Aquæ Camph. ad oz. 1½. M. ft. hustus. To be taken at bedtime. Very useful when the initial stage is passed and nasal fluxion is fairly established with a distressing feeling of oppression and stiffness about the nasal passages and frontal sinuses. A single dose is sufficient if the patient is able to keep to the house and better still to one moderately warm room for a day or two. If he exposes himself, the symptoms of catarrh will reappear next morning. Some feverishness and slight rise of temperature frequently accompany these attacks, and so give Quinine in doses of one or two grs. 3 or 4 times a day. It is a *valuable adjunct to Opium treatment*. It is given in effervescence in the following form which is agreeable and refreshing to patient :—

- (a). R Pot. Bicarb. drs. 2, Ammon. Carb. grs. 32, Syr. Aurant. drs. 4, Aquæ ad ozs. 8. M. ft. parts 6. (b.) R Quin.

Sulph. grs. 9, Acid Citric. grs. 120. M. ft. pulv. 6. Sig.—One of these powders is to be dissolved into little water and this is to be mixed with one part of (a.) mixture and taken every 3 or 4 hours.

5. R Acid Salicyl. grs. 20, Liq. Ammon. Acet. drs. 2. Aquæ ad. oz. 1. M. To be given three or four times a day. This will control common cold, the aching of the brow, eyelids, &c., will cease in a few hours, as well as the sneezing and running from the nose, and more fortunate still, the cold will pass off, and not finish up, as is customary, with a cough. (Dr. S. Wilson Hope).

6. R Morphinae gr. 1/50, Calcii Sulphidi gr. 1/10. M. ft. triturate 1. To be taken every hour or two. For subacute or chronic catarrh affecting the bronchi, the throat or the nasal cavity. The effect upon the mucous secretion is such that after 12 to 24 hours there is profuse expectoration of mucus which affords relief. It will not affect digestion nor the nervous system. The small doses of morphia do not arrest the secretions like large ones, but they allay pain and reflex irritation, and do not disturb digestion.

7. Nasal Tablets of Carl Seiler, M. D.—Each tablet contains:—Sod. Bicarb., Sod. Borate, â â. grs. 7, Sod. Benzoate, Sod. Salicylate, â â. gr. 7/24, Eucalyptol, Thymol, â â. gr. 7/48, Menthol, Oil Wintergreen, â â. gr. 7/96. One tablet dissolved in from 2 to 4 ozs. of water will form a satisfactory solution for general use. In the treatment of catarrh and other affections of the nasal passage, when a mild antiseptic and an efficient deodorizing agent is required, they will be found especially serviceable, and for which the following mode of administration is recommended:—

Take a test-tube about four inches long and half an inch wide and place it in the solution to be used. Open the mouth and breathe through it. Put the open end of the tube into one nostril, catch the rim against the ala so as to make a good fit. Then bend the head back, and raise the closed end of the tube, so as to pour the fluid into the nostril. All the while keep breathing through.

the mouth. The fluid will now run into the nose, pass back to the naso-pharynx, and can be made to go around behind the septum and on top of the soft palate, and come out of the opposite nostril. By moving the head about in various directions, the fluid can be made to reach any point in the nares, in front or behind, and to remain in contact with it as long as may be desired. Of course, all fluid applications to the nares *must be well warmed* and of a proper specific gravity. If, for example, the solution be warmed to about 100° F. and used in this way, it will be found a most soothing application. The quantity to be used may easily be as much as such a test-tube will contain. And it may be filled several times and used again and again at a single sitting. In place of a test-tube an ordinary half-ounce homœopathic vial will answer the purpose equally as well. (Parke, Davis).

8. (Sp.) Acid Salicyl. parts 4, A. Tannic 6, Bism. Subnitr. 90. M. Has been used as a snuff for years past in cases of nasal catarrh. (Drs. Philpots and James Mac Munn.)

9. R Menthol parts 2, finely-ground roasted Coffee 50, powdered Sugar 50. M. The powder should be snuffed into the nostrils strongly and frequently. *A sovereign remedy against fresh colds in the head* (Dr. Rabow).

10. R Menthol parts 2, Cocaine Hydrochl. part 1, Acid Boric P_v. parts 100. M. To be used as a snuff. *Vide* Pg. 486.

11. **Ferrier's Snuff.**—R Morph. Hydrochl. grs. 2, Bism. Subnitr. drs. 6, Gum Acaciæ P_v. drs. 2. M. Snuff this amount in 2 or 3 days. For cold in the head, (hay fever and headache).

12. **Vigier's Coryza Powder.**—R Amyli P_v., Acid Boracic, Tr. Benzoini (Siam), â â. dr. 1. M. Alcohol gets evaporated and a dry powder results. To be used as a snuff frequently and plentifully.

13. R Fol. Bellad. P_v. grs. 20, Cocainæ Mur. grs. 5, Ol. Rosæ min. 1. Acaciæ P_v. q. s, ad. drs. 4. Use with the powder blower for anterior and posterior nares. For acute coryza with pain of nasal nerve.

14. Iodoform drs. 2, Camphor drs. $1\frac{1}{2}$, Pot. Nitr. oz. 1, Pot. Chloratis drs. 3, Ol Eucalypti mins. 10. M. *Vide* Pg. 390, para 15.
15. R Iodoform drs. 2, Camphor drs. 2, Pot. Nitr. oz. $1\frac{1}{2}$, Bism. Subnitr. drs. 4, Pyrethrum Pv. dr. $\frac{1}{2}$. M. Useful for ordinary nasal catarrhs, even when excoriations of m. m. are present.
16. **Aromatic Cephalic Snuff.**—R Canellæ Pv. parts 4, Bayberry Pv. 6, Sanguinariæ Pv. 2, Valerianæ Pv. 2, Hellebor, Alb. Pv. 1. M. Add Ess. Oils of Marjorum and Lavender â â mins. 20 to every pound. For catarrh, common colds; (dizziness of the head, lethargy, palsy, nervous headache, and the various nervous affections of the head and eyes).
17. R Sodii Chloridi parts 120, Pot. Chloratis 50, Ammon. Iodidi 2, Acid Carbol. Cryst. 8, Camphoræ Pv. 8, Hydrastis Rad. Pv. 20. M. The combination is regarded as excellent for the purpose of reducing the inflammation, altering the morbid condition, soothing and calming the irritation and finally eradicating the disease. To be used as a snuff.
18. R Quininæ Mur. part 1, Glycerini 15. M. 2 or 3 drops to be applied to the nasal m. m. 3 or 4 times daily by means of camel hair pencil. *Vide* Pg. 596.
19. R Listerine, Glycerine â â fl. oz. 1, Sod. Bicarb. dr. 1, Sol. Hydrastis fl. oz. $\frac{1}{2}$, Aquæ Dist. q. s. ad fl. ozs. 4. M. Use in atomiser. For nasal catarrh (A. Laymann, M. D.)
20. Insufflation of Benzoate of Soda and Sugar of Milk, 1 in 500.
21. Hot water as hot as can be tolerated and in quantities of $\frac{1}{2}$ to 1 pint at a time and used as a gargle is very useful in coryza or cold in the head, (acute pharyngitis and tonsillitis).
22. *Vide* F. 2 *Diphtheria*.

23. Other External and Internal Remedies : Acid Camphoric 8, Ammon. Chloride vapor, Apomorphia 67, Beta-Naphthol, Creasote (I), Eucalyptus leaves 258 (c.), Eucalyptine 260, and 262, para 7, Eupatorium Perfol. (I.), Euphrasia off. Tinct. (formerly extensively used in 10 drop doses in aborting coryza), Grindel. Rob. (I.), Hamamelis 321, Hazeline 322, Jaborandi 402, Ipecac., Menthol 486,

Mangostine (1.), Pilocarpine 408, Pinol 525, Pix Liquida 569, Pot. Chlorate (1.), Pulsatilla (1.), Sanguinaria 636, Sanitas Oil 642.

Paroxysmal Sneezing.

This is due to cold or irritation of the nasal nerve and m. m. from causes other than cold :—

(1.) Tinct. Aconite applied to the bridge and alī nasi. (2.) Arsenic 70. (3.) Henry's Thillum applied inside the nose. (4.) Snuffling of Ferrier's Snuff. (5.) F. 5. Catarrh.

CEPHALALGIA (HEADACHE.)

1. (Sp.) R Caffeinæ Citr. Granul. dr. 1, Sodii Salicyl. grs. 10, Aquæ oz. I. To be given every 2 hours. For Migraine. *Vide* Pg. 127, para 3 and 4.

2. (Sp) R Fel. Bovin. Insp. gr. 1, Ol. Gaultheriæ min. 1. M. ft. pil. 1. To be taken every hour until relief is felt or until 6 have been taken. It is to be commenced as soon as the first pain is felt. By this plan *Sick Headache* is almost invariably cut short, although some pain of a neuralgic character remains in a few cases.

3. R Cerii Oxalatis grs. 10, Aquæ drs. 4. M. To be given every 2 or 3 hours for Sick Headache ; small doses are of no avail. It acts by its sedative action on the pneumogastric and sympathetic system of nerves.

4. Cases of *headache or migraine due to uric acid* in the blood have been cured by the administration of *Acids*. *Antipyrin* also cures such headaches, and after giving *Antipyrin*, uric acid is found in the urine and urine is acid. So also *Chloride of Sodium* produces acidity of the urine and cures *Migraine*.

5. R Chinoidin gr. 1, Atropinæ gr. 1/20. M. ft. pil. 1. For *Sick Headache*.

6. Tr. Gelsemii Semp. in 10 to 30 mins. doses is useful for *Catarrhal Headaches*, and Headaches accompanying *Dysmenorrhœa* and *Nervous Debility from overwork*.

7. Antifebrin 51, *Antipyrin* 58, *Cannabis* 137, Capsicum 140, Cicuta Mac., Coca 179, Croton Chloral Hydrate, Ethyl Bromide 255,

Eucalyptine 262, Exalgine 284, Gentiana Quinq., Guarana 315, Jamaica Dogwood 417, Kola Nut 442, Menthol 489, Methylene Blue, Nitro-Glycerine 508, Nux Vom. 512, Phenacetine, Picrotoxine, Pot. Bromide, Pot. Iodide 381, Pulsatilla 583, Sabattia C., Salix Nigra, Salol 631, Seidlitz Pulv., Sod. Chloride 661, Sod. Nitrite, Trumpet Plant, Umbellularia.

CEREBRAL HEMORRHAGE.

1. Endeavour to control the prodromal symptoms which threaten an attack of *Apoplexy*, by prompt *venesection and cathartics*. (2.) Relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably *Aconite* (*Vide*. "Vascular Sedatives.") (3.) Remove the exudation, *relieve cerebral anæmia and pulmonary congestion, and prevent further thrombosis by the free use of Carbonate of Ammonia*. (4.) Support the system by nourishing yet unstimulating diet and by the use of remedies which especially nourish the brain tissue, such as *Lacto-Phosphate of Lime, Phosphate of Zinc and Cod-Liver Oil*. (5.) Increase the muscular development by *Massage, Electricity and Strychnine*.

The *Carbonate of Ammonia* should never be given in cerebral hemorrhage until the period of reaction has fully set in, say, from 10 to 16 days. It should then be given *continuously* for at least a month or until the *retrograde changes* in the clot are accomplished. In *thrombosis and embolism* if diagnosis can be clearly made, it should be given *at once*. The dose employed is 5 grs. in half an ounce of Liq. Ammon. Acet. every 4 hours. There is one class of cases in which Ammon. Carb. does not act well and they are cases of cerebral hemorrhage associated with *Interstitial Nephritis and Hepatitis*. Here good results have been obtained from the use of *Sodii Phosphas* in doses of 20 to 30 grs. with *Taraxacum* t. i. d. after meals; also *Hydrarg. Perchl.* in doses of 1/24 gr. has been advantageously combined with them either as alone or sometimes with *Squill and Digitalis pills* before meals. Ammon. Carb. gives excellent results in cases of *thrombosis of cerebral vessels due to chronic arteritis*, also in embolism of brain secondary to lesion of the cardiac valves.

CHANCRE.

1. In cases of chancre when there is *much irritation*, a powder composed of equal parts of Grey powder and Oxide of Zinc each rubbed into a very fine powder is an excellent application, sometimes healing a very *angry looking sore* in a very short time.

2. R Naphthalin grs. 10, Bismuth Subnitr. oz. 1. M. To be applied on *soft chancres*.

3. *Acid Pyrogallic* 17, *Acid Salicylic* 19, *Aristol* 753, *Bismuth Sub-Benzoas* 756, *Eucalyptine* 263, *Iodoform* 389, *Iodol* 395, *Hydrarg.* *Salicyl.* 338, *Kieselgühr* 439, *Pot. Chlorate*, *Phytolacca Pv.*, *Resorcine* 610, *Salol*, *Sanguinaria Pv.*, *Sodii Sulph-Benzoas* 666, *Stillingia* 686.

CHAPPED HANDS AND LIPS.

1. R Acid Boracic 1 part, Glycerine 24, Lanoline Anhydr. 5, Vaseline 70. M. It may be coloured and perfumed.

2. R Caustic Potash $\frac{1}{2}$ per cent., Glycerine and Alcohol â â 20 per cent., Aquæ 60 per cent. The hands are bathed in warm water, and this mixture is then rubbed into the skin. This is done once daily, and in two or three days a cure is said to be the result. For chapped hands and chilblains (Prof. Babiz., Japan.)

3. Lanoline 456. Sanitas Vaseline 645.

CHILBLAINS.

1. R Ol. Cajeputi dr. 1, Liq. Ammon. Fort. dr. 1, Lin. Sapon. Co. ozs. 3. Apply hot.

2. R Alum grs. 60, the whites of two eggs. M. ft. cataplasm or poultice.

3. Strong solution of Argent. Nitr. sometimes painted on swollen chilbains.

4. R Glycerine ointment 2 parts, Sapo Mollis 1, Aquæ Laurocerasi 1. M.

4. Boracis ointment, Capsicum tr., Creasote (min. 1 to dr. 1 of water), Lanoline 461, F. 26, Quinine 597, para 6.

CHOLERA (ASIATIC AND ENGLISH).

Preventive Treatment or Precautionary Measures.

(1.) The most important thing to be attended to is *to check the slightest degree of looseness of the bowels*. (2.) Care should be taken *to prevent any catarrhal condition of stomach or intestines*; such catarrhal condition is produced by cold, and therefore a warm *flannel or cholera belt* should be worn, *night and day, even in hot weather, around the abdomen*, to prevent any sudden chill from producing catarrh. (3.) *Protracted fasts* to be *avoided* by eating a little every 5 hours or so; the importance of this is appreciated when it is remembered that acids destroy the poison of cholera. (4.) The customary allowance of *stimulants* should be *taken if moderate, but if excessive, it should be considerably reduced*. (5.) All *tainted meat, unripe fruits, and uncooked vegetables* or vegetable that is in a state of *incipient decomposition*, should be *carefully avoided*, as well as any other errors of diet. (6.) When one is not sure of *water* being pure, it is advisable to *boil and filter* it, in order to prevent organisms from entering the system. (7.) *Damp clothes* should be *changed* as soon as possible and the feet kept dry. (8.) All *fatigue and extremes of heat and cold, especially exposure to the sun* should be *avoided* and *no saline or strong purgative* should be *taken* (T. Lauder Brunton, M.D.).

2. R Acidi Carbolici mins. 2, Tr. Capsici mins. 2, Sp. Vini Gallici dr. 1, Soda Water ad one wineglassful. To be taken twice a day as a preventative during cholera epidemics.

3. Acid Trichloracetic 749.

Premonitory or Early Stage.

1. The most important is to check the premonitory diarrhœa which can be very well effected by a pill of Opium gr. $\frac{1}{2}$, Piper Nigr. gr. $\frac{1}{3}$, Assafoetida gr. $\frac{1}{3}$, and Camphor gr. $\frac{1}{3}$. ($\frac{1}{3}$ gr. of Capsicum may be added to these pill with advantage). If this does not check it, then Acid Sulph. Dil. with Tr. Opii in Peppermint Water often suffices (Lauder Brunton, M.D.).

2. In the premonitory stage, *perfect rest* on the back, *Opium* with *A. Sulph. Dil.* and *external stimulants* in the shape of mustard and

turpentine, with *ice to suck* and no food beyond a little *milk, arrowroot and broth*, have in my hands most successful when cholera has once developed (Surg. Major Hamilton, M.D.).

3. For the preliminary or diarrhœal stage nothing in my experience answers as well as *A. Sulph. Dil.* which should be administered every hour in doses of 20 to 30 mins. in some agreeable menstruum, with *mustard or turpentine epithems to the abdominal region*, and iced water when available ad libitum (Alexander Harkin, M.D.).

4. R Acidi Carbolici mins. 2, Chloroformi mins. 3, Mist. Acaciæ oz. 1. M. To be given every 2 or 3 hours. This would be doubtless very useful in the early stages. (Dr. A. E. Sansom).

5. In the vomiting and diarrhœa of early stage Hayem recommends *Ice, Opium, and Salicylate of Bismuth* in doses upto 8 or 10 grs.

6. R Opii, Camphoræ, â â. oz. 1, Ol. Caryophylli fl. oz. 1, Capsici oz. 1, Sp. Ether. Co. (Hoffman's Anodyne) fl. ozs. 16. M. ft. Tinct. 20 to 60 drops every third or fourth hour for adults, according to circumstances. This preparation has been extensively employed in America. In cases where it is desired to obtain an *immediate* effect it is invaluable. When cholera is epidemic, every practitioner will do well to arm himself with this remedy, as it will enable him to arrest premonitory *diarrhœa of Asiatic Cholera* directly he is called in, and possibly prevent a state of collapse (Kirby).

7. R Acid. Sulph. Arom., Tr. Cardam. Co., â â. drs. $1\frac{1}{2}$, Sp. Chloroformi drs. 2, Tr. Opii dr. $\frac{1}{2}$, Ext. Hæmatoxyli drs. 2, Aquæ ad ozs. 6. M. 1 to $1\frac{1}{2}$ ozs. for adults. 1 to 3 drs. for children. *A useful diarrhœa mixture during cholera epidemic.*

8. During the exceptionally severe epidemic of cholera at Naples, Prof. Cantani proposed combating the preliminary diarrhœa by warm Tannic Acid enemata. The practice was largely and successfully adopted by Dr. Vincenzo Vitone. He employed the following formula in adults :—R Inf. Anthemid. Flor. pints 3, A. Tannic drs. 2, Gum Arabic drs. 7, Tr. Opii mins. 40. M. ft. enemata. Prof. Cantani uses for adults :—R Aquæ litres 2, A. Tannic grms. 5 to 10, Gum Arabic grms. 50, Tr. Opii mins 30 to 50. M. While E. Villani has

injected per rectum in adults as much as 15 grms. of A. Tannic in 2 litres of warm water with invariably good results. *The formula used for a boy aged 8 was :—R Aquæ Puræ grms. 1000, A. Tannic grms. 3, Gum Arabic grms. 20, Tr. Opii mins. 12. M. An infusion of chamomile was at the same time administered. For a child aged 4 years the formula was :—R Aquæ Tepidæ grms. 400, A. Tannic grms. 2, Gum Arabic grms. 15, Tr. Opii mins. 5. M.* In all cases this liquid should be introduced, cooled to the temperature of the body, and introduced by means of a long flexible tube as high as possible into the intestines at the very commencement of diarrhœa. If flexible tube be not available, enema syringe may be used. Single application of this enteroclysm was sufficient to arrest premonitory diarrhœa.

9. **Evacuative Treatment :—**(a.) The danger of treating the premonitory diarrhœa with purgatives, as would under other circumstances be indicated, has been clearly shown. It might be supposed that if we acknowledge the cause of cholera to lie in a germ which produces its ravages while in contact with the intestinal mucous membrane, the sooner that germ could be removed, the better for the patient ; but it must also be remembered that contact with the *Acid gastric juice destroys the vitality of the cholera bacillus*, so a cathartic may only hasten its passage from the acid stomach to the alkaline intestines ; so if an evacuative treatment is required *an emetic would be preferable to a cathartic*. And experience confirms this, for *Ipecac. in emetic doses* has been found to be *one of the best modes of treatment in the initial stage of cholera* ; it should be followed by the administration of 20 to 30 drops of *laudanum*, associated with other *astringent* remedies, such as *Bismuth* or different preparations in which *Tannic Acid* is the principal ingredient. And, as it is well known, acids are fatal to the germs of cholera, lemonade containing from 1 to 4 parts of Sulphuric Acid to 1000 of dilute mucilage sweetened with syrup may be freely drunk and usually exerts a remarkable influence on the diarrhœa, though the vomiting may be increased but that is not necessarily disadvantageous as already indicated.

(b.) other evacuative agents for eliminating poison from the system are Castor Oil, Saline purgatives, Podophyllin and Aloes.

10. Resorcine 608, para 4.

Violent Vomiting and Purging.

1. **The Vagus Treatment** :—It is based on the opinion of Dr. Henry MacCormack, who, as long ago as 1834, taught that *cholera is a neurosis, a disease of the sympathetic nervous system*, the vomiting, purging, aphonia, vertigo, spasms, cramps, tremors, &c., all revealing their nervous origin. Alexander Harkin, M. D., believes that *by stimulating the vagi he arouses their inhibitory power, which controls and antagonizes the disordered innervation of the abdominal sympathetic*. Physiologists teach that the *phenomena of vomiting and purging depend together upon the nervous mechanism of the organs affected*. According to Michael Foster, the dilatation of the cardiac orifice is caused, in part by efferent impulses descending the *Vagi*, since when these are cut, real vomiting, with discharge of the gastric contents is difficult through want of readiness in dilatation. Since the *Vagus* acts as an efferent nerve in causing dilatation of the cardiac orifice so essential to the act of vomiting, it is difficult to eliminate the share taken by the *Vagus* as an efferent nerve carrying up impulses from the stomach to the vomiting centre. That the *right pneumogastric* supplies the whole of the small intestines. This is an *inhibitory nerve*, that the *division of all the nerves going to a portion of intestines is followed by a secretion of fluid just like rice water stools of cholera*. In accordance with these physiological views I have treated every case of *English cholera in the 2nd stage by remedies applied to the pneumogastric nerves in the cervical region with the satisfactory result of putting an end at once to the profuse vomiting and purging so characteristic of this stage*. There is another important indication which will be subserved by counterirritation over the *Vagus*—viz. the restriction of cardio-inhibitory function of that nerve ; thus the violent contraction of the heart will be controlled, the expansive power of its cavities restored and the congestion of the pulmonary and arterial system put an end to. The application I have always used is *Liquor Epispasticus B. P. applied freely with a brush behind the ear and in the neck as far as the angle of the lower jaw*. No matter how violent the vomiting and purging, I have never failed in stopping both by this application. A stimulating effect is produced at once and with

it all gastric disturbances cease. A single application of Liq. Epispastic behind the right ear is sufficient than a double one. In the *algide stage* the same good result is said to be experienced.

Dr. Inglott, one of the physicians to the Zeitun Hospital, Malta, says "Dr. Harkin's vagus treatment acted in our hands in many cases like magic. I remember well to have seen a boy at the hospital in so advanced a state of algidism that very little hope there was of saving his life. All internal remedies failed. I was astonished on seeing him dying in the morning, and quite convalescent in the afternoon, after a strong vesication over the vagus." Dr. Cannataci, another physician to the same hospital, says that "the vagus treatment failed completely in several cases, but in many cases acted like magic." He relates five cases, and from these and about thirty others of the same kind he concludes that Dr. Harkin's *vagus treatment is very beneficial in Asiatic cholera*.

2. During an outbreak of choleraic diarrhœa at Clayton-Le-Moors, between 100 and 150 persons were attacked and of these 80 were treated by C. R. Illingworth, M.D., as follows:—R Liq. Acidi Carbolici (1 in 20) dr. $\frac{1}{2}$, Liq. Morphiae mins. 15, Sp. Ammon. Aro. mins. 20, Mist. effervescent oz. 1. M. To be given every 2 hours. He prescribed 6 draughts of such a mixture in the case all the adults. In the majority of cases this mixture answered well, but in some of the worst it did not stop either the vomiting or the purging and it seemed to have a tendency to increase the collapse, no doubt from the depressing effect of morphia upon the respiratory and circulatory centres. In such cases he gave the formula described in para 2 under **Collapse** at page 858. In addition to medicine, he also ordered brandy and soda water to quench the great thirst and a hot linseed and mustard poultice over the whole of the abdomen. In cases where there was no vomiting but only diarrhœa and pain, with feverish symptoms and foul tongue, the following mixture cured in a few hours:—R Sp. Ammon. Aro. drs. 3, Liq. Acidi Carbol. (1 in 20) drs. 4 to 6, Chloral Hydrate dr. 1 to drs. $1\frac{1}{2}$, Syr. Papaveris drs. 6, Aquæ ad ozs. 6. M. $\frac{1}{2}$ oz. to be taken every 2nd or 3rd hour. With this mixture also he treated most of the young children; of course in reduced doses and with Bismuth in place of Ammonia in cases of severe vomiting. Of stimulants used, Port Wine he found to agree the best.

3. In case of vomiting and purging where Opium is contraindicated from fear of supervening collapse, give a pill containing Calomel grs. $\frac{1}{2}$, Ext. Cannabis gr. $\frac{1}{2}$ and Ext. Taraxaci q. s., repeated if necessary every hour; but three are generally sufficient as the vomiting and purging are generally easily stopped. Give small pieces of ice to suck and iced water to drink, with a little milk and soda, now and again, but *avoid beef-tea altogether*. If vomiting continues a few drops of *Chloroform* on sugar will relieve it or else *Creasote* min. 1 or *Iodoform* gr. 1 in form of a pill. *Red Iodide of Mercury* in doses of $\frac{1}{4}$ gr. was substituted for *Calomel* in some cases on account of its action on ptomaines (L. Brunton, M.D.)

4. *Calomel and Corrosive Sublimate*.—The action of Calomel is a double one. The prominent symptom in cholera is the *want of bile*. Bile is an *antiseptic* and its absence from the intestines will tend to allow the microbes to grow and multiply in the intestines much more rapidly than if bile were present. By *increasing the amount of bile poured into the duodenum*, Calomel may act as an antiseptic but it has also an antiseptic action of its own, for Wassilieff has shown it to possess a very considerable power of arresting fermentation and destroying micro-organisms. This power is possessed to a far greater extent by Corrosive Sublimate, as shown by Dr. Koch, which is one of the most powerful of all disinfectants and differs from Chlorine and Iodine in this particular that *its disinfecting power is not destroyed by the alkaline character of the liquid in which the organisms are living*. Grant Bey gave Corr. Subl. in doses of $\frac{1}{10}$ gr. up to $\frac{1}{8}$ gr. every $\frac{1}{4}$ hr., every $\frac{1}{2}$ hr., or every hr., according to the state of the patient. Even in the collapse state he gave the Corr. Subl. and had many recoveries.

5. First give an *hypodermic injection of Morphia and Atropine in epigastrium to check emesis*. Then give an *acid intestinal disinfectant as Carbolic Acid and Sulphuric Acid* with Camphor, Cinnamon, Cloves, or Cajeput, &c. In place of Carbolic and Sulphuric Acids, a new drug *Aseptol* may be given (*Vide* Pg. 754), or *Salol* which separates into Salicylic and Carbolic Acids (*Vide* 632), or *Betol* which separates into Salicylic Acid and Beta-Naphthol. These to be combined with an aromatic and astringent as Gallic Acid and then crushed ice and rice water (Surg. Major G. C. Ross).

6. Surgeon E. H. Brown has successfully used *Eucalyptus Oil* in several epidemics of Cholera since 1887. He gives 5 mins. of the oil in milk every 15 minutes for the first hour and afterwards hourly ; for children from $\frac{1}{2}$ min. upwards. There is early cessation of emesis, catharsis being restrained later and it is seldom necessary to continue the drug for 24 hours.

7. (a.) I ought to be duly gratified in cholera having had it twice and also seen 3 epidemics of it. I saw 957 cases of choleraic diarrhœa and cholera and in 1866 had the advantage of observing the disease in private practice and intend using the following :—

R Chloral Hydratis drs. $1\frac{1}{2}$, Sodæ Bicarb. drs. $1\frac{1}{2}$, Tr. Camph. Co. oz. 1, Tr. Capsici dr. $\frac{1}{2}$, Acid Hydrocyan. Dil. dr. $\frac{1}{2}$, Aquæ ad ozs. 8. M. One tablespoonful to be given immediately on seeing the case and a dessertspoonful every 15 to 30 minutes afterwards. Should collapse be present, the Hydrocyanic Acid should be omitted according to the present theory of cholera. The second dose of the foregoing receipt will be retained probably, the Chloral being an anti-emetic ; but should it be rejected, an ounce, more or less, in gum acacia solution might be thrown well up into the bowels. From its antiseptic, antiemetic, antispasmodic and other qualities, it should be useful and may be sufficiently potent to destroy the poison of cholera.

(b.) **Brain Electrique.**—Another treatment is founded on the hypothesis that the first action of cholera is upon the *nerve centre*. For example those who have had much clinical experience in cholera must have noticed that *one of the very earliest of its specific symptoms is the marked coldness of the tongue*. It is generally easy in the course of the epidemic, to pick out the cholera cases from those of ordinary diarrhœa by simply attending to this indication, which is readily recognizable by the touch. It is the immediate *result of depression produced by the impression of poison on the nerve centres*. The patient being placed in an ordinary bed, the legs of which are insulated by glass foot-cups and the prime conductor of the electric machine being brought into connection with the body, *the sick person may be charged with electricity* without either trouble or pain of any sort. This treatment is called

brain électrique and should be tried and does not interfere with the general plan of treatment which may be adopted (J. C. Murray, M.D.)

8. **Quassia acts as a cure as well as a preventative :—** Make an incision in the left arm until the appearance of blood, then drop into the cut 4 to 5 drops of the Tinct. of Quassia. So soon as the blood coagulates bind the wound up with a strip of cloth and keep it moist. The patients were allowed only cold water and sherbet to drink. Sometimes a mussuck of cold water was thrown over the body and head for the medicine is found to produce extraordinary heat in the body and this refreshed the patients much. This mode of treatment is very effective and cured many serious cases. Quassia is strongly antiseptic (Henry B. Evans, M.D.).

9. **Hannemane's Theory and Treatment :—**That the disease has been *produced by the presence in the air of microscopic germs* ; that these germs have been killed and so similar other germs by *Camphor*. Therefore in the room where such patient lies *piece of Camphor and Sulphur should be burnt* by putting them on an heated iron ; *drop doses of strong spirits of camphor* given every five minutes and strong spirits of camphor *rubbed on the body* of the patient.

10. Dissolve 10 grs. of *Sublimed Sulphur in Rectified Sulphuric Ether*, aiding the solution if necessary by gentle heat ; immersion of bottle in warm water is sufficient for this. Of this 25 to 30 drops are added to a half wineglassful of sweetened water, seltzer water, &c., and little of this solution may be given frequently. (Ether dissolves 1/80 of its weight of Sulphur, and Rect. Spirit only 1/100). *Vide* page 699.

11. *The solution of Chlorinated Soda* in 10 to 15 minim doses along with *Decoction of Cinchona* given every hour till the serious symptoms abate and then every 3rd hour for 2 or 3 following days. If given with water alone it causes dryness of the mouth. Mustard plaster to be applied over the heart and hot water bottles to the extremities. Five cases were so treated and were cured and they were serious and so the remedy should be tried further. The solution used must always be fresh as after 5 or 6 months it gets decomposed. Sometimes it causes dysenteric symptoms if pushed too far, when its use should be immediately discontinued (J. Benjamin).

12. Infusion of *Eupatorium Ayapana* has been used in the Isle of France as an antidote for cholera.

13. (Ind.) During the latter part of the epidemic of cholera, which broke out in July 1884 at Baroda, Dr. Shamsudin J. Sulemani treated 5 marked cases of this disease with the following :—R Delphin. Denud., Strychnos Ignatii, Lodoicea Seychell., Cardamomi, â â. partes equales. Powder and mix. This was given in 10 gr. doses to adult patients every hour or two, according to the severity of the symptoms. In each case 3 or 4 doses were used. Four of these were cured and one proved fatal. In all these 5 cases no food was allowed while vomiting and purging continued.

14. (Ind.) R Calotropis Gigantea (fresh juice), Piper. Nigr. Pv., â â equal parts, Ginger Juice q. s. to form a suitable mass. Divide into pills, 5 grs. each. Give one pill every 2 hours.

15. Other remedies are :—Acid Benzoic, A. Boracic, A. Nitro-Mur. Dil., A. Sulphurous, *Ajowan* 31, Chlorine, Cinnamon, Copper salts, Coto 228, Hydrarg. Oxid. Fl. 334, Naphthalin and other antiseptics of aromatic series, *Nitrogen Binowide* 764, Ol. Menthæ Pip. 523, Papain 539, Plumbi Acetas, Permanganate of Potash, Sod. Hyposulph., Sod. Sulphocarb., Sanitas Fluid 649, Thymol 712.

Cramps.

(1.) *Myristica Fragrans* 500. (2.) Hypodermic injection of Chloral Hydrate into the muscles. (3.) Frictions with dry heat, Camphorated Alcohol, Liniment of Ammonia, Turpentine, Chloroform, &c.

4. In cramp of the diaphragm relief may be obtained in applying hot turpentine stupes to the epigastrium or by hypodermic injections of Ether.

Collapse.

1. On the supervention of collapse avoid further use of *Opium* especially in the form of pills, as these may accumulate and act when the patient is convalescent, and it is no longer required. All drugs which contain tannin in any form are more likely to be

Hurtful than useful and should be avoided. A dose of *Pot. Bromide* grs. 20, *Chloral Hydrate* grs. 20, and perhaps few minims of *Acid Hydrocyan. Dil. in Peppermint Water* may prevent collapse getting worse and relieve the cramps; but it is not advisable to give a second dose as the loss of time may prove disastrous. The next thing to employ, if vomiting and purging continues, is the treatment described at page 854, para 3. No time should be lost in giving diuretics, for it is necessary to give them early (*Vide Suppression of Urine.*) Hot water bottles to be applied to the feet. If cases came under treatment before collapse had lasted for 5 hours they soon obtained relief, but where more than this had elapsed, suppression of urine was very obstinate, and although many of the fatal cases lived for 3 days, and even for 5 days, the rallying power seemed lost. Above all things avoid the use of astringents and anything that tends to contract the minute blood vessels. For this reason the use of tea should be avoided, using coffee instead, as coffee acts as a stimulant and rouses the action of the heart (L. Brunton, M.D.).

Why are Opium and other drugs contraindicated?—Because the gradual progressing dehydration of the blood and its resulting stagnation renders absorption extremely difficult, not only of remedies thrown into the alimentary canal but even of those administered subcutaneously; while again the second danger is met with, that if drugs be given in any quantity, if fortunately the patient reaches the stage of reaction, he may then be killed by the sudden absorption of drugs which had accumulated in the system. *Hypodermic injections of Opium*, therefore in such conditions are especially to be avoided in the 2nd stage of cholera when elimination by the kidneys is arrested and Opium preparations which are useful in the primary stage are hurtful in the 2nd stage.

2. During an outbreak of cholera (English) at Clayton-Le-Moors, C. R. Illingworth, M.D., gave in cases of vomiting and purging with collapse the following:—R Bismuth grs. 5 to 10, Liq. Acidi Carbol. (1 in 20) dr. $\frac{1}{2}$, Chloral grs. 5 to 8, Tr. Belladonnæ mins. 5 to 8, Glycerini dr. $\frac{1}{2}$ to 1, Aquæ ad oz. 1, M. To be given every 2 or 3 hours. This produced excellent effects. Many rejected and vomited the soda water and milk, but all could take

and retain water and particularly port wine and water better than any other fluid.

3. R Ol. Cajeputi mins. 2, Sp. Ammon. Aro. mins. 20, Sp. Ether. Nitr. mins. 15, Aquæ Camphoræ oz. 1, M. With this give also hypod. injection of Morphia gr. $\frac{1}{4}$ and Atropine gr. 1/150 every 20 minutes.

4. The first point of practice in collapse is to place the person in a medium temperature, not below 50° and not above 60° F., so that neither the chilling action of cold nor the exhausting action of heat should exert a destructive influence. The next point of practice in collapse is of feeding. Notwithstanding the vomiting, the patient may, by careful attention, be made to take by the mouth a very large quantity of fluid. The fluid to be supplied should not make the body cooler by extracting heat; it should not produce local reaction by instant excess of heat; but it should be supplied after it has been raised from 15° to 20° above the animal temperature. So much for the warmth of fluid supplied; next, as to the nature of it. First dissolve with heat 2 ozs. by wt. of pure Stearin and 2 ozs. of best fresh Butter until they are both melted together, then add 20 grs. of Carbonate of Soda and 80 grs. of Common Salt to 8 ozs. of Whites and Yolks of Eggs, well beaten up; and when these salts are dissolved in the egg fluid, mix it with the oily fluid, taking care that the latter is not of a temperature above 140° F. Let the whole cool to a soft consistence and finally, on a slab or board, rub in 2 ozs. of distilled water with a broad spatula. Place the compound in a wide mouthed jar, in a little time it settles into a moderately hard mass and is ready for use. In administering this compound, take 1 oz., place in a large cup and rub it up equally with a teaspoonful of glycerine or a teaspoonful of honey. Next pour upon the mass ozs. 3 of distilled water, actually boiling, and incorporate well. The solid substance will now quickly dissolve and will be at once so cool that it can be taken as a pleasant drink. The thermometer plunged in it will only register from 130° to 135° F. When feeding by the mouth is impossible, the next indication in collapse is feeding by the veins and of intraperitoneal injection. (B. W. Richardson, M.D.).

4. **Inhalation of oxygen** also proved very valuable in the treatment of severe cases of cholera at Toulon; some cases which were apparently at the point of death being resuscitated, the skin gaining in temperature and the circulation being almost normal. Sometimes however this reaction is only ephemeral and the inhalations are contraindicated where somnolence and a low form of delirium are the prominent symptoms. *The inhalation of oxygen also seemed efficacious in reducing vomiting.*

5. As stimulants to circulation various means have been proposed. In the first place come cutaneous excitants such as frictions, mustard baths, and hot irons; combined with internal administration of diffusible stimulants such as *Coffee, Ether*, and above all, *Acetate of Ammonia* associated with Ether, which seems particularly efficacious in causing increased fluidity of the blood. *Hypod. Injection of Ether is very serviceable (vide page 27).* Drs. L. Brunton and Pye Smith recommend *injection into the veins of Quinine and administration of Amyl Nitrite* with the view of lessening contraction of pulmonary vessel and restoring circulation. They also recommend various applications to surface in order to restore circulation such as friction, dry packing, wet packing, douche baths, Turkish baths, hot applications, ice to spine, counterirritants to epigastrium, turpentine stupes, nitro-mur. baths, mustard plasters and acupuncture.

6. **Intravenous and Intraperitoneal Injections.**—In addition to above described purely symptomatic means of removing the effects due to dehydration of the blood, various measures have been proposed for directly restoring to the blood its normal fluidity and composition, such as *injections of liquids into the serous cavities or subcutaneously, or the direct intravenous injections of alkaline solutions.* Of these methods the latter plan has proved the most serviceable, though it also will often fail; the probability of success will however be greater if the method is commenced at the onset of the algide stage and not depended on as a last resource. *Large quantities of liquids should be slowly thrown into a vein. It should be alkaline in reaction and should be warmed upto the temperature of the body.* The formula is: Sodium Chloride (pure) 5 parts. Sodium Sulphate

10 parts or perhaps still better 25 parts to a 1000 of water. Of this solution 2 to $2\frac{1}{2}$ litres at *blood heat*, or even above it, are injected into the veins. Cantani recommends that water should be injected under the skin instead of introducing fluids into circulation. Muraglio finds that this method is very useful and not only should it be employed in diarrhoea and vomiting, but in slight cases also. Cantani's solution consisted of 3 parts of Soda, 3 parts of Sodium Iodide and 1000 of water; to this Muraglio adds 3 parts of Sodium Sulphate.

Suppression of Urine.

1. It is necessary to give diuretics early during collapse. The physiological condition to be dealt with here, is stagnation of the capillary circulation, which when once checked in kidneys is exceedingly difficult to rouse into action again. As *Turpentine* is the most powerful stimulant of capillary circulation, 15 mins. of *Ol. Terebinthina* with *Cannabis* and *Mucilage* is most effectual when given every hour with *dry cupping the loins*. *Nitrites* were useful in some epidemics and useless in other. If cases came under treatment after collapse had lasted for more than five hours, suppression of urine was very obstinate, and although many of the fatal cases lived for 3 days, the rallying powers seemed lost. (L. Brunton, M.D.).

2. Friction over the back with a liniment of *Sp. Terebinth.*, *Tr. Digitalis* and *Whisky*, rubbed in warm, will hasten the resumption of functional activity of kidneys, along with the internal use of *Turpentine* as above.

Reaction Stage.

1. As for the stage of reaction in cases which successfully pass the algide stage, quinine, lukewarm baths, revulsions to the skin to overcome the congestion of internal organs, combined with concentrated food, will prove most efficacious.

2. In the stage of reaction Sir Andrew Clark used with great success the following:—R *Hydrarg. c. Cretæ* grs. 2, *Ipecac. Pv.* gr. $\frac{1}{2}$, *Doveri Pv.* grs. $2\frac{1}{2}$, M. et ft. pulv. To be given night and morning.

3. Hayen recommends *Citrate of Caffeine* and *Brandy*.

CHOLERA INFANTUM.

(SUMMER DISORDERS OF CHILDHOOD.)

Medical Treatment.—The futility of astringents in Cholera Infantum, except in the stage of convalescence, is apparent. That treatment is most successful which is directed by the theory that the disease has its origin in fermentative action taking place in stomach and bowels. Calomel is a reliable and a most important therapeutic agent to remove the product of decomposition; it has both antiputrefactive and sedative properties.

Acute Vomiting.—Calomel in small frequently repeated doses is one of the best sedatives and should be given in doses of $\frac{1}{8}$ to $\frac{1}{20}$ gr. every $\frac{1}{2}$ hour. For an infant 3 to 6 months old, give:—R Hydrarg. Subchl. gr. 1, Sacch. Lactis grs. 3. M. ft. pulv. 20. One every 15 or 30 minutes dry on tongue. Instead of Sacch. Lactis, Calomel can be given with little Bicarbonate of Soda and Ginger. If there is fever, pain and great restlessness, $\frac{1}{12}$ to $\frac{1}{4}$ gr. of P_v. Doveri may be added. Great reliance is placed on combination of Calomel with P_v. Doveri and to be given in small doses frequently repeated. For a child of 6 months give:—R P_v. Doveri gr. 1, Hydr. Subchl. gr. 1. M. ft. pulv. 12. One every 15 minutes until asleep or relieved. Resorcine is also very beneficial *Vide* pg. 608, para 4 (*d.*). Often in simple cases of vomiting *Lime Water* and *Whiskey* are of service. With **more chronic forms of vomiting** give Calomel with Bismuth Subnitr. Creasote is also a valuable drug in these cases and when given combined with Bismuth Subnitr. the effects are gratifying. The addition to each dose of from $\frac{1}{3}$ to $\frac{1}{10}$ drop of Creasote increases its efficacy, by combining an antiseptic with an antacid. *Lacto-peptine* or *Saccharated Pepsin* is also used. In some obstinate cases of vomiting, decoction of *Peach leaves* has been used with success.

Simple Diarrhœa.—The simple astringents, the familiar antacids, Rhubarb. with an antacid is useful. Blackberry syrup is of great service alone or with other astringents. Carbolic Acid with Bismuth. In chronic cases solution of *Nitrate of Silver*.

Entero-Colitis.—With external stimulating applications and care in diet, give Castor Oil and Opium, Rhubarb and Opium, Quinine and Calomel. The writer commences at once with Mist. Ol. Ricini with Opium as :—R Mist. Ol. Ricini oz. 1, Tr. Opii Deodorata mins. 24 to 40, Ol. Cinnam. mins. 4 to 11. M. 15 to 20 drops every 2 hours, for an infant 6 months, to be given until tormina and tenesmus are relieved and blood and mucus checked. In some obstinate cases or complicated with malaria or in malarious regions, Quinine in powder or syrup alternately with small doses of Calomel and Dover's Pd. When relieved of mucus and blood, give astringents and tonic. Creasote gives also excellent results in *entero-colitis*.

Stimulants.—They are of great service not only in Cholera Infantum but in other affections. The following is a good stimulant mixture :—R Musk dr. 1, Ammon. Carb. dr. $\frac{1}{2}$, Ol. Menthæ mins. 5, Alcohol drs. 2, Aquæ drs. 5. M. Five drops every hour for a child 2 years old (30 drops every hour is an adult dose). In gastric affections, a good Claret or Sherry or Whiskey are the best. In diarrhoea, burnt Brandy, Port or some astringent cordial may replace others.

Bathing.—For derivative purposes the general warm bath is used. It should be used, if there is fever, irritability and sufficient strength, 2 or 3 times a day. If there is much exhaustion, the baths for cleanliness should be made stimulating by addition of Salt, Whiskey or Alcohol.

External Derivatives.—A weak mustard plaster, spice plaster, or flannel dipped in Jamaica Ginger, dr. 1 to hot water ozs. 3, applied to abdomen. The best thing is to apply the spice poultice : a tablespoonsful each of coarsely powdered ginger, cinnamon, cloves allspice and cornmeal, quilled into a fold of flannel sufficiently large to cover the abdomen of the child. This is to be saturated with hot whiskey, and applied to the surface with a piece of oil silk. No device will more readily allay gastric irritability while the effect of the mixture and heat, on the bowels is very salutary. Hot foot baths and mustard foot baths are of service. If there is fever and irritability, frequent foot baths are ordered and they quiet the nervous system which is perturbed. Keep abdomen protected ; keep

warm flannel on abdomen. In entero-colitis and chronic diarrhœa these precautions are almost essential to successful treatment.

Inunctions.—They are of extreme value and have saved life in many of the Dr. Musser's cases. Not only is absorption of oil of service but by gentle manipulation, all advantages of massage are secured. In acute or subacute cases without fever, inunctions are begun at once. In cases of extreme prostration and in miasmatic states its effects are magical. It is indicated in severe cases where there is gradual failure of strength and loss of flesh. In many cases the baths and inunctions are used, the baths until the active febrile symptoms have subsided and the inunctions subsequently. Cod-Liver Oil once or twice daily and gently rubbed in and every second day a cleansing bath of alcohol and water. It is of advantage sometimes to anoint oil at night and use cleansing bath in morning.

Other remedies for Cholera Infantum:—Arsenite of Copper 72, Coca 179, Coto 227, Geranin 303, Glycerine of Borax 108, Hydrarg. c. Creta 331, Hydrarg. Iodic 333, Hydrastis 342, Ingluvin 378 to 79, Naphthallin 503, Pancreatine 535, Papain 538 to 39, Resorcine 608, Rhus Arom. 615 to 16, Saccharin 623, Salol 632, Sodii Creasotinas, Sodii Phosphas 665, Water (hot). 736.

Dietary.—Simplest and blandest articles of nourishment are ordered: In an acute case, as acute vomiting or cholera infantum the child is taken from the breast and usual milk and artificial food is removed and weak rice water or barely water given. Brandy in 5 to 20 and 30 mins. every half or one hour is given for 24 or 48 hours. After the stomach has regained its strength, stronger nourishment may be given and 4 things are relied upon:—1 Cream, a teaspoonful to 3 ozs. of warm water every hour or two. 2. Milk peptonized according to Fairchild method. 3 Gelatine, milk and cream preparations of Meig's and Pepper. 4 Weak chicken broth.

CHORDEE.

1. R Camphoræ grs. 3, Lactucarii gr. $\frac{1}{4}$, Guaranæ gr. $\frac{1}{2}$, Ext. Bellad gr. $\frac{1}{4}$, Opii gr. $\frac{1}{4}$. M. ft. pil 1. For removing or repressing sexual feelings in crses where from various causes the sexual

instinct is preternaturally excited, as in *chordee of gonorrhœa*, *obstinate priapism*, &c.

2. B Camph. Monobrom. grs. 2, Lactucarii grs. 2, Extr. Hyoscyami grs. 2. M. ft. pil. Useful in same cases as the above.
3. R Camphoræ grs. $2\frac{1}{2}$, Extr. Bellad. gr. $\frac{1}{4}$, Ext. Hyoscy. gr. $1\frac{1}{2}$. M. ft. pil. Two at bedtime, and repeated in 4 hours if required.
4. R Camphoræ, Lupulini, et Ext. Hyoscy., â â grs. 10, M. ft. pil. 6. Two at bedtime.
5. Atropine, Bromides, Caffeine, Colchicum, Conium, Digitalis, Hyosc. Hydrobrom., Lupulus, Morphia, Pulsatilla, Salix Nigra. *Vide Antaphrodisiacs.*

CHOREA.

1. Dr. C. H. Leonard narrates the case of a girl of eleven, who suffered from *chorea* which proved *intractable* to the usual remedial agents. On examination it was discovered that a condition of *adherent præputium clitoridis* existed, and on directing the treatment in this direction the choreic movements quickly subsided. It is important, therefore, in each case of *persistent chorea*, to *examine the genital organs for sources of irritation*. Prof. Sayre has long since proved the necessity of examining boys for *preputial adhesions* in certain cases of paralysis and neuroses, and on relieving the glans penis from irritation these symptoms speedily vanished.

2. R Pil. Phosph. Mollis gr. $1\frac{1}{4}$, Zinci Sulph. gr. 1, Ext. Valerianæ grs. 2. M. ft. pil. *For adults*:—One or two t. i. d. *For children*: One twice or thrice daily. This combination has been found exceedingly useful in the treatment of certain nervous disorders peculiar to women connected with ovarian irritability, *dysmenorrhœa*, *leucorrhœa*, and uterine disturbances. In hysteria, melancholia, and other mental derangements, occurring on the cessation of the menses, and in the treatment of **chorea** and *epilepsy*, it has been found highly useful. In these cases it must be given boldly, 2 pills t. i. d. for six or eight weeks.

3. Absinthium, Acid Hydrobrom. Dil., *Actæa Racemosa*, *Aniline Sulph.* 48, *Antipyrin* 62, Antifebrin, Apomorphia, Argenti Nitras, A. Phosphas, *Arsenic* 75, Assafoetida, Camphor, C. Monobrom., Cerii Oxalas, Collinsonia 211, *Conine Hydrobromas*, *Cypripedium*, Ergotine, Eserine 563, Ferri Arsenias, F. Bromide, F. Perchloride, Hyosciamine, Hyoscine Hydrobrom., Lobelia, Morphia, Picrotoxin, *Veratrum Viride* 718, Zinc Oxide, Zinc Velerianate.

CHYLURIA.

1. R Ferri Sulph. grs. 48, Pot. Acetatis grs. 40, Sodæ Salicyl. dr. 1, Aquæ ozs. $2\frac{1}{2}$. M. 1 to 2 drs. in water, t. i. d. For intermittent Chyluria.

2. Free administration of a decoction of Mangrove (*Rhizophora Racemosa*) acts beneficially and has seemed to cure one case (Dr. Tanner.)

CICATRICES.

Papain 542, Pepsin 549, para 2, cases 1 and 2.

COLIC.

1. R Assafoetidæ Colat. grs. 2, Opii Pv. gr. 1, Capsici Pv. gr. $1\frac{1}{2}$. M. ft. pil. One pill according to the condition of the patient. For colic and other flatulent affections of the bowels attended with pain and spasms. (Also for cholera and diarrhœa).

2. R Opii Pulv. grs. 2, Calomel grs. 6, Pv. Zingib. Jam. grs. 12. M. ft. pulves 5. One powder every 1, 2, 3 or 4 hours until relief is obtained. For children in proportion. Dr. Jayne has found it of great service in relieving the pains, spasms and diarrhœa not only in cholera, but also in ordinary colics, cramps and bowel complaints.

3. Dalby's Carminative :—R Ol. Fenniculi mins. 40, Ol. Menthæ Pip. mins. 40, Tr. Opii ozs. 6, Magnes Carb. ozs. 12, Pot. Carbon. drs. 4, Sacchari ozs. 32, Aquæ O.10 M.

4. Dr. Taylor recommends the use of Phosphate of Soda in the case of recurring attacks of cramp colic as a cheap and effectual substitute for Vichy and other alkaline waters. Given in doses of

30 grs t. i. d., and diminished to 20 or 15 grs. if it gives rise to much irritation of the bowels. It should be administered before meals from half to one hour in a glass of water.

5. R. Menthol drs. 5, Sp. Camphor oz. 1, Alcohol oz. 1. M. To be applied on abdomen with a camel hair pencil to relieve **colicky pains**. Also applied with success in Erysipelas and all painful affections over the immediate seat of pain.

6. Ajowan, Amyl Valer. 751, *Amyl. Nitrite*, Angelica, Antipyrin, Asclepias Tub., Bonduc Nut 107, Carminatives (q. v.), Cedron seed, Chamomile, Coca 179, Collinsonia 211, Coto, Embelia Ribes, Erythrophloeum, Galangal root, Guarana, *Jamaica Dogwood* 422, *Menthol*, Methylal, Morphia, *Quinine* 597, Resorcine 608, Rue (oil), Viburn. Prun. 729, Xanthoxylum, Water (hot) 736.

COLITIS.

1. In cases of colitis indicated by the frequent dejection of small amounts of mucus and blood, with tenesmus, rectal irrigations through a soft tube passed high up are both rational and efficient. Two or three pints of simple cold water used in this way may do good. In it can be dissolved Sulphate of Zinc or Alum to the amount of one grain to every four to six ounces of water; or two grs. of Nitrate of Silver to a pint may be injected every one or two days, if allowed to come away at once.

2. Yerba Santa 745.

COMA.

Diabetic Coma.—1. Anything exciting the heart, medicinal or other, must be avoided. Hill climbing, stair climbing, long walks, early rising, Venus and Bacchus in excess, are all to be avoided, as also are bromide of potash, all combinations of potash, salicyl, antipyrin, antifebrin and hot baths. Also narcotics, except when absolutely necessary, and then carefully used. Nutritious, but easily digested food, a moderate amount of alcohol fresh and invigorating air—these are the best drugs. Of course one must not lose sight of the ordinary diabetic treatment; the above refers to cardiac failure.

In a pressing case the patient is to be kept laid down, and must neither stand up nor sit up, even for stools or urinating. Stimulants by the mouth, or preferably, if apt to cause vomiting, subcutaneously (*e.g.*, musk and camphor). The best stimulant of all is black coffee. With alcohol in large doses it is necessary to be careful on account of the succeeding depression favouring collapse. The neglected *castoreum sibiricum*, not *canandense*, is considered a very good stimulant. The great danger lies in letting the patients up too soon, and the great difficulty is in keeping them in bed long enough. Schmitz makes it a rule not to let his patients get up until the first sound of the heart, indistinct or vanished, again becomes clear. He gives five interesting cases illustrating well his theory and treatment.

So far as regards the first. The second form of diabetic coma he describes as an acute self-poisoning, which has been named, although not rightly, acetonæmia. Here treatment consists in clearing out the bowels, constipated or not, with one or two tablespoonfuls of Castor Oil. The poison, be it ptomaine or toxin or whatever else, is a product of decomposition in the bowel. The case is simply one of poison; the poison lies in the bowel, and the indications accordingly are to get rid of it as soon as possible. After a thorough purging, resulting in a profusion of black, foul, putrid stools, recovery is equally quick. Even in diarrhœa he gives Castor oil, and the result is equally good. The purging does not weaken the patient, who seems better after than before the attack. Of 8 cases all equally bad, four not treated with the oil died, and 4 treated with it speedily recovered. (W. A. Stewart).

2. Give saline purgatives and large doses of alkaline substances to combat acidity of organic fluids. Inhalation of oxygen and subcutaneous injection of Ether are also beneficial. Excessive fatigue and digestive troubles should be guarded against.

3. Dr. A. P. Chandfourne records a case of diabetic coma, in which the left median cephalic vein was opened and 30 ozs. of a 5 per cent aqueous solution of Sodium Bicarbonate allowed to flow in. The pulse improved—fell to 120—and the patient returned to consciousness, becoming quite rational. Next day he again became

comatose and the injection was repeated with similar effect—which however, was again but temporary,—and on the return of the coma (which speedily proved fatal) the friends refused to have the injection tried a third time. He gives abstracts of 17 published cases thus treated, and of these only one was completely successful, but in many others there was a certain degree of temporary improvement. Three cases showed absolutely no improvement.

Uræmic Coma.—Jaborandi 401, Pilocarpine 407, Nitro-Glycerine 509.

Vide Uræmia.

CONDYLOMATA.

1. (Sp.) R Hydrarg. Subchl. grs. 30, Acid Boracic grs. 15, Acid Salicyl. grs. 5. M. Very effective when dusted over the condylomata t. i. d. by which they almost visibly dwindle away.
2. R Hydrarg. Perchl. grs. 5, Acid Carbolic grs. 30, Acid Tannic grs. 10, Aquæ oz. 1. Touch condylomata with this solution from time to time with a camel hair pencil.
3. Incise with scissors and cauterize the raw surface with strong Nitric Acid.
4. Acid Chromic, A. Trichloracetic, Arsenic Oleate 516, Cupri Sulph., Hydrarg. Formamidis 760, Hydr. Iodidi Rubr. Ung., Hydr. Nitr. Acid Liq., Ichthyol 367, Resorcine 611, Sabina.

CONSTIPATION.

1. **Management of Simple Constipation.**—(a.) On first waking in the *morning* and also on going to bed at *night*, sip slowly from a quarter to half a pint of *water hot or cold*. (b.) On rising, take a *cold or tepid sponge bath* followed by a brisk general *towel*ling. (c.) Clothe warmly and losely ; see that there is *no constriction about the waist*. (d.) Take 3 simple but liberal meals daily ; and if desired and it does not disagree, take also a slice of bread and butter and a cup of tea in the afternoon. When tea is used it should not be hot or strong or infused over 5 minutes. (For further particulars *vide* “*Dietary*.”) (e.) Walk at least half an hour twice daily. (f.) Avoid sitting or working long in any position as will compress or constrict the

bowels. (*g.*) Solicit the action of bowels every day after breakfast and be patient in soliciting. If you fail in procuring relief one day, wait until the following day when you will renew solicitation at the appointed time. If you fail the second day, continuing the daily solicitation, you may wait until the fourth day when assistance should be taken. Simplest and best is a small enema of equal parts of Olive Oil and water. If this fails, you may try on waking in the morning, massage of the abdomen practised from right to left along the course of the colon (vide pg. 479-81) and at the two greater meals of the day take a dessert-spoonful or more of the best Lucca Oil. It is rather a pleasant addition to potatoes or green vegetables. (*h.*) If the use of drugs is unavoidable try **Aloin pills** as follows:—

R Aloin gr. $\frac{1}{2}$, Ext. Nucis Vom. grs. $\frac{1}{2}$, Ferri Sulph. gr. $\frac{1}{2}$, Pv. Myrrh. gr. $\frac{1}{2}$, Saponis gr. $\frac{1}{2}$ M. ft. pil.

Take one pill before the last meal of the day or just so much of one as will suffice to move the bowels in a natural way the next day after breakfast. If it produce a very copious motion or several small motions then reduce pill to $\frac{1}{2}$ or $\frac{1}{4}$ th. and take such pill every day or every alternate day until habit of daily defæcation is established. Then reduce dose of pill slowly and eventually withdraw. If fæces are dry and hard and no special weakness of heart add $\frac{1}{2}$ gr. of Ipecac. Pulv. to each pill. If griping, then $\frac{1}{2}$ gr. of Ext. Belladonna added to each pill. If aloin pill gripes, provokes the discharge of much mucus take from 5 to 20 drops of Fl. Ext. Cascara Sagrada in 1 oz. of water either on retiring to bed or before dinner. If even Cascara fails take before the midday meals 2 or 3 grs. each of dried Carbonate of Soda and Rhei Pulv.

2. R Aloin gr. $\frac{1}{5}$, Ext. Bellad. Alc. gr. $\frac{1}{8}$, Strychniæ gr. $\frac{1}{60}$. M. ft. pil. A tonic laxative for habitual constipation. Dose: 1 or 2 pills. Where a painless peristaltic action is required, as in the aged and females, one pill may be taken every night or second night at bedtime. Where there is hemorrhoidal tendency add $\frac{1}{2}$ gr. of Ext. Cascara Sagrada in each pill.

3. **Pil Anticonstipation.**—R Aloin gr. 1, Strychniæ gr. $\frac{1}{60}$, Ext. Bellad. gr. $\frac{1}{8}$, Ipecac. gr. $\frac{1}{16}$ M. ft. pil. A tonic laxative to be given at bedtime. If it does not act, repeat it in the morning.

4. **Pil. Anti-constipation.** (*Warner's*). R Podophyllin gr. 1/10, Ext. Nuc. Vom. gr. $\frac{1}{4}$, Pv. Capsici gr. $\frac{1}{4}$, Ext. Belladon. gr. 1/10, Ext. Hyosc. gr. $\frac{1}{4}$. M. ft. pil. Dose: 1 to 4 pills.

5. (a.) **R Pil. Antistyplic.** No. 1.—Ext. Aloes Soc. gr. $\frac{3}{4}$, Ferri Sulph. gr. $1\frac{1}{2}$, Atropinae gr. 1/200. M. ft. pil. One to three pills immediately after dinner, the object being to produce an easy, natural, non-diarrhoeic evacuation. Dr. Macario has employed this pill during 12 years with constant success, and therefore regards it as infallible. For *nervous constipation*, produced by intestinal excitement, with *deficient secretion*.

(b.) **Pil. Antistyplic.** No. 2.—R Ext. Aloes Soc. gr. $\frac{3}{4}$, Ferri Sulph. gr. $1\frac{1}{2}$, Nucis Vom. gr. 1/7. M. ft. pil. One or two daily after dinner. Dr. Macario has employed it with similar success in atonic constipation, produced by an abnormal deficient contraction of the muscular coat of intestine, favored by neglect of hygienic habits.

By the aid of these pills, regular stools are produced, even in obstinate constipation, dependent on *cerebral disturbance*, paraplegia, &c; but *neither of these "Antistyplic pills" should be long continued without an interval*, as it is of importance to allow the organs to resume their peristaltic action without any auxiliary.

6. **Dr. Janeways Pills** :—R Ext. Bellad., Ext. Nuc. Vom., â â. grs. 3, Podoph. Res. grs. 6, Aloes Soc. grs. 12. M. ft. pil. 12. One to two at bedtime. These pills are a favourite prescription of E.G. Janeway, M. D., and are an excellent laxative or cathartic, and do not gripe.

7. **Ayer's Cathartic Pills** :—R Ricinine ozs. 2, Cathartine ozs. 3, Colocynth. Pulp ozs. 2, Aloesin oz. 1, Carminatives, q. s. M. ft. mass. et div. in pil. grs. $2\frac{1}{2}$, of which 3 or 4 pills are a medium dose for an adult.

8. R Aloin gr. 1, Podophyllin gr. $\frac{1}{2}$, Gingerine min. 1/6. M. ft. pil. Dose: 1 pill. An American remedy for constipation, said to act well at dinner time. A useful purgative when watery evacuations are desired to relieve congestion.

9. R Ext. Physostigm. gr. 5/6, Glycerine drs. $2\frac{1}{2}$. M. 6 mins. every 3 hours. In *obstinate constipation dependent on weakness of the muscular coats of intestines as in women and old people*.

10. Ext. Physostigm. gr. $\frac{1}{4}$, Ext. Bellad., Ext. Nuc. Vom. â â. gr. $\frac{1}{2}$. M. ft. pil. One at bedtime. In habitual constipation dependent on torpor of the muscular layer of the intestines and deficient secretion of mucus, as in women and old men. In obstinate cases it deserves a trial.

11. R Quinine, Chinoidin, Hydrastin, â â. gr. 1, Podophyllin gr. $\frac{1}{6}$, Ferri Sulph. gr. $\frac{1}{2}$. M. ft. pil. One t. i. d. A useful laxative in constipation dependent on defective secretion when the stools are dry and hard. A very useful combination, especially for those who have been exposed to tropical heat.

12. **Pil. Laxativa.**—R Aloes Soc. Pv. gr. 1, Sulphur gr. $\frac{1}{5}$, Podophyllin gr. $\frac{1}{5}$, Res. Guaiacum gr. $\frac{1}{2}$, Syr. Rhamni q. s. M. ft. pil. *Dose* : 1 to 2 pills.

13. R Podophyllin gr. $\frac{1}{8}$, Ext. Cascarae Sagr. grs. 3, Ext. Hyosc. grs. 2. M. ft. pil. one to two pills at bedtime for habitual constipation, with hepatic congestion.

14. R Podophyllin gr. $\frac{1}{4}$, Ext. Bellad. Alc. gr. $\frac{1}{8}$, Strychniæ gr. $\frac{1}{30}$ M. ft. pil. one night and morning. A laxative acting on the alimentary canal, giving tone to the stomach and improving digestion, and producing contraction of the intestinal muscles. Useful in hepatic torpor from defective nerve influence.

15. R Hydrarg. Protoiodidi gr. $\frac{1}{8}$, Podophyllin, Aloin, Ext. Nuc. Vom., Ext. Hyosc., â â. gr. $\frac{1}{16}$. M. ft. pil. *Dose* : 1 to 2 pills. An intestinal antiseptic, destroying the poisonous alkaloïds produced in the intestines by the fermentation and putrefaction of bad food and indigestion.

16. **Compound Cascara Pellets** (*D'Ary's*) :—R Ext. Cascara grs. 4, Ext. Nuc. Vom. gr. $\frac{1}{2}$, Ext. Bellad. gr. $\frac{1}{4}$, Euonymine grs. 3, Xanthoxylin grs. 4, Oleo-resin. Capsici gr. $\frac{3}{4}$. M. ft. pellets 15. Take 5 pellets at night only, increasing the dose by one and more pellets every night until the action is sufficient. Then continue to take this number every night for one week. For the next week lessen your dose by one pellet and so forth, lessening the nightly dose by one pellet for every succeeding week.

17. R Cascara Cordial ozs. 3, Ext. Euonymi. Fl. dr. 1. M. *Dose* : 2 teaspoonfuls. In constipation with hepatic torpor.

18. R Cascara Cordial ozs. 4, Ext. Lobel. Fl. drs. 2. M. Dose : 2 teaspoonfuls. In constipation with *excessive dryness of stools*.

19. R Cascara Cordial ozs. $3\frac{1}{2}$, Ext. Rhei Fl., A. Nitro-Mur. Dil. â â, drs. 2. M. Dose : 2 teaspoonfuls in infusion of quassia. In constipation with gastric debility.

20. **Tamar Indien** (Dr. Hager).—Tamarind pulp 450 grms., Sacchari Albi Pv. 40 grms., Sacch. Lactis Pv. grms. 60, Glycerini Pur. grms. 50. Mix with constant stirring at a gentle heat, and evaporate down to the consistency of a syrup. Then incorporate with it : R Sennæ Pulv. grms. 50, Aniseed Pv. grms. 10, Oleo-saccharate of Lemon grms. 3, Acid Tartaric grms. 3. Make the ingredients into a plastic mass with the fingers, and form the whole into oblong tablets of $1\frac{1}{2}$ inch long, $\frac{9}{10}$ inch broad and $\frac{1}{2}$ inch thick and sprinkle with the following powder :—R Pot. Tart. Acid. Pur. parts 5, Sacch. Albi 35, Sacch. Lact. 35, Tragacanth. Pv. 3, Acid Tartaric 2, Red Sanders Wood 25. All in fine powder. Mix. Allow the tablets to dry in a warm place for an hour, and wrap them in tinfoil.

21. A confection containing 10 grs. of Guaicum resin to a drachm of honey, given in doses of 1 to 2 drs. t. i. d., produces a pronounced purgative effect. The guaiacum not infrequently gives rise to a burning sensation in the throat, and to obviate this Dr. Murrell prescribed 10 grs. of the resin in $\frac{1}{2}$ oz. of ext. of malt, which answered admirably as a purgative.

22. **Liq. Magnesiae Citratis**.—R Magnes. Calcinatæ ozs. 2, Acid Citric ozs. 9, Saccharæ Alb. ozs. 20, Ol. Limonis gtts. 20, Aquæ q. s. ut fiant O. 8. Dissolve the magnesia and acid in four pints of water ; then add the sugar, to which has previously been added the oil of lemon. Add the balance of the water, stirring well until the sugar is dissolved, filter, and to each bottle add half a drachm of bicarbonate of potassium. If the formula is carefully followed it will produce a delicious preparation, far superior to that of the United States Pharmacopœia, and one which may be kept for some time and still retain its bright, sparkling appearance, and will but very seldom deposit a sediment. I generally prepare only a dozen at a time, and have made it a practice (after the corks have been well secured by good strong twine) of inverting the bottles or laying them down on

the side, so that the neck of the bottle will be filled with the solution, preventing the escape of the carbonic acid gas as much as possible. After trying many of the different formulas published I have found none equal to the above, which I have used for the past few years (A country chemist.)

23. **R** Sema-pods, pulverized and washed with alcohol, Sublimed Sulphur, â â grs. 90, Pulv. Fennel, Pulv. Anise, â â grs. 45, Pulv. Cream of Tartar grs. 30, Pulv. Licorice drs. 2, Pulv. Sugar drs. $6\frac{1}{4}$. M. one or two teaspoonfuls stirred in a little water. In cases of constipation with *dilatation of stomach* (Dujardin-Beaumetz, M. D.).

24. **Pil. Cathartic Co., Improved**—**R.** Ext. Coloc. Co. gr. 1, Ext. Jalapæ gr. $\frac{1}{2}$, Podophyllin gr. $\frac{1}{4}$, Leptandrin gr. $\frac{1}{4}$, Ext. Gent. gr. $\frac{1}{2}$, Ext. Hyosc. gr. $\frac{1}{4}$, Ol. Menthæ Pip. q. s. M. ft. pil. One to three pills. An excellent vegetable laxative pill.

25. **Pil. Cathartic Co., U. S. P.**—**R** Ext. Coloc. Co. gr. $1\frac{3}{10}$, Ext. Jalapæ gr. 1, Calomel gr. 1, Cambog. Pv. gr. $\frac{1}{4}$ M. ft. pil. One to three pills. Useful in all cases requiring thorough purgation or when the stomach is disordered, liver tumid, the skin and conjunctivæ muddy, &c. They are frequently taken after an unusually heavy meal or to carry off the effects of alcoholic indulgence. They act on the whole intestinal tract.

26. **R** Ol. Crotonis gtt. $\frac{1}{2}$, Elaterin gr. $1/24$, Atropiæ Sulph. gr. $1/80$. M. ft. pil. A favourite pill with F. C. Herr, M. D., for the purpose of prompt catharsis. It will often produce a free discharge within one hour.

27. **R** Ol. Crotonis min. $1/5$, Hydr. Subchl. gr. 1, Ext. Jalapæ gr. 1, Ext. Coloc. Co. grs. $2\frac{1}{2}$, Gingerinæ q. s. M. ft. pil. An *active purgative*. This pill is very largely used in the *West Indies*, and on the *West Coast of Africa*, where it is found to act efficiently upon *the natives*, who need strong medicines (Kirby).

28. Other remedies for habitual and obstinate Constipation are : *Beta Vulg.* 101, Cascara Elixir 153, Eserine 563, Eseridine 564, Colomel Triturates 339, Glycerine 304, para 6 and 9., Franz Josef M. Waters, Hydrastis, Jatropha Curcas 427, J. Macrorrhiza 428, Liq.

Enonymin et Cascara 270; Revalenta Food, Nux Vom. 512, Senna. Pods 655, Tabloids Sulph. Co.

Vide Cathartics.

Dietary.—To the bran bread, and to the rye and Graham bread heretofore employed, should be added soja bread. This Japanese bean, from which soja bread is prepared, contains a purgative oil. Lecerf's bread, taken in too great quantity, is really purgative, and that of Bourdin, of Rheims, which contains both gluten and soja not freed from its oil, is still more laxative. A vegetable diet is not without influence on the constipated; it furnishes soft and pasty fæces, like those of the herbivora, while a diet more or less exclusive of animal food gives hard and scanty fæces. Avoid pickles, spices, curries, salted or otherwise preserved provisions, pies, pastry, cheese, hard and indigestible foods taken with a view of moving the bowels, strong tea, and much hot liquid of any kind with the meals.

CONVULSIONS.

1. *Respiratory Convulsions with special reference to Laryngismus Stridulus and allied conditions in infancy :—*

The first indication of treatment is that there should be *no obstruction to free respiration* and that dress should not compress throat, chest or abdomen and their movements. That the *air* should be *pure and warm* so as not to excite reflex spasm by its contact with laryngeal or tracheal surface. *Cold water dashed suddenly over head and chest* will often put a stop to a paroxysm or a cloth or sponge wrung out of *hot water* and *applied suddenly to throat* or if *suffocation* seem imminent, the *finger put into pharynx*, may induce vomiting and relief. The *warm bath* is a *useful* and popular mode of treatment and *vapour bath* seems to have a soothing effect. If the case be *severe and prolonged*, administration of *Chloroform* is useful, but it should be remembered that this will cause obstruction to already overburdened respiration. A *preferable* mode, if time permits, is giving *enema of starch* containing from 1 to 3 grs. of *Chloral Hydrate* for a child of one year. If cause be reflex from *tense and swollen gums*, lance them. *Ascarides* or *lumbricoides* removed by appropriate means; for former copious enema of

Quassia followed by *lavements of warm water* or if there be straining, by a starch enema to which may be added *Pot. Bromide* 1 to 4 grs. according to age. If due to undigested food in stomach, a stimulant emetic of *mustard* or *Ipecac.*, or *Zinc Sulph.* given. If there be *great turgescence and lividity of face* during fit and persisting during intervals the application of one or two *leeches to nostrils or temples* is often beneficial and should not be omitted from present prejudice when it is requisite ; it is very advantageous to patient and consonant to pathological physiology. It relieves turgid and overfilled vessels of surface ; by saying this I do not advocate depletion. If the child be *rickety* and if it is of an age to take other than milk the *juice of meat or raw flesh chopped* and mixed with salt is often of value and taken well. *Lime water* in milk is sometimes useful and also *Cod Liver Oil* in not large quantities but small doses. *Clothing* should be *warm* and *flannel* worn next to skin. If bowels are *constipated*, *Decoct. Aloes* and small dose of *Belladonna*, 1/20 or 1/32 gr. of *Ext. Bellad.* twice or thrice a day, assisted by friction over abdomen, with *Castor Oil*, may be given in obstinate cases of constipation. *Bromide of Ammonium* is useful in these cases, and may be given alone or with *Chloral*, viz., 1 of Chloral to 3 or 4 grs. of Bromide to a child 12 months old, but may be pushed, if required, much further. Occasionally a few grains of *grey powder*, and during convalescence *ferruginous tonics*, are indicated. *Musk* is also very useful in these cases, in doses of $\frac{1}{3}$ gr. to 1 gr. to a child of 12 months and *Belladonna*, previously mentioned for its use in constipation, is valuable as a *respiratory stimulant* and is well borne, as much as 15 mins. of tincture having been given t. i. d. to a child 12 months old. I must again impress upon the reader that this disease of convulsions is a disease of impaired nutrition and that all means should be directed to remedying this evil, so that sometimes brandy is adviseable as stimulant, and in severe diarrhœa which is also sometimes an accompaniment of disease, narcotics are given, as *Opium*.

2. Veillard's Convulsion Mixture :—R Tr. Musk, Tr. Castor, Ether. Sulph., â â. mins. 32, Tr. Camphor. Co. mins. 8. M. Six drops of this mixture given every hour in a teaspoonful of sweetened water or a teaspoonful of milk. The intervals between the doses may be lengthened as the symptoms become more moderate.

3. R Musk grs. 3, Chloral Hydrate grs. $7\frac{1}{2}$ to 15, Camphor grs. 15, Yolk of Egg, Aquæ ozs. 2. M. ft. enema. For infantile convulsions.

4. R Calcii Sulphidi gr. 1, Aquæ ozs. 8. M. A teaspoonful given hourly to children under six months old, for convulsions due to dentition, falls on the head and meningitis.

5. **Convulsions in Adults.**—In treatment, the first steps are measures to prevent the biting of the tongue, which is, unfortunately, often too early a result to be averted, being caused by a primary and sudden closure of the jaw muscles. A piece of wood, or clothespin, or a cork secured so as to prevent its being swallowed, or a towel thrust into the mouth will answer the purpose. Then the patient's clothing to be loosened, as in fainting, and he is to be restrained from such motion as may result in further injuring himself. If the convulsion be due to epilepsy nothing further can be done. (*Vide Epilepsy*). If the convulsions are due to Bright's disease, a more active treatment is necessary. If it be puerperal Nephritis, in addition to necessary measure to protect the tongue, adopt treatment described under *Eclampsia*, para 2. If the convulsion is due to Bright's disease not occurring in pregnancy, a $\frac{1}{4}$ gr. of Pilocarpine may be injected hypodermically and may be repeated in a few minutes if not followed by sweating; or, if this be not at hand, a hot air bath or a steam bath. Hysterical convulsion requires a different treatment; electricity in the shape of the direct galvanic current, occasionally interrupted, or of faradization, is, however, often felt, and will generally cause the convulsion to cease. Douching the patient with cold water will likewise be usually successful. (Inhalations of Nitrite of Amyl will usually arrest convulsions, no matter what be their nature, though its use in puerperal convulsions after delivery, may prove dangerous by producing flooding).

Vide Eclampsia and Uræmia.

6. R Chloral grs. 30 to 45, Sodii Bromidi grs. 30 to 45, Syr. Codeine oz. $\frac{1}{2}$, Syr. Amygd. Amaræ oz. $\frac{1}{2}$, Aquæ ozs. 2. M. A third part every 2 hours. For convulsions in adults.

7. *Allyl Tribrom.*, Apomorphia 67, Assafoetida, Belladonna 81, para 3, Camph. Monobrom., Cannabis 139, Curara, *Cypripedium*,

Ethyl Bromide, Gelsemium 300, para 7, *Hyoscyamine* 359, para 2, *Hyosc. Hydrobrom.*, Jaborandi, Lobelia, Pilocarpine, Ruta, Scutellaria, Sodii Nitris, Solanum Carolinense 669, Solanin (gr. 1. in tremor from Sclerosis), Sumbul, Urethane, Valerian, Veratrum.

CORN.

1. (Sp.) Dr. Barbies recommends equal parts of Acetic Acid and Tinct. Iodine as a most useful application, which he has repeatedly tried. A few drops are applied night and morning which gradually use up the pachydermatous covering to its very root.

2. (Sp.) Dr. Trail Green commends from his own experience M. Gezon's remedy : R Acid Salicylic parts 30, Ext. Cannabis parts 5, Collodion parts 100. It is applied with a camel hair pencil. In 4 or 5 days the corn comes off and the patient should then take a warm foot bath. A second application may be needed.

3. R Acid Salicylic, Acid Lactic, â â. parts 10, Collodion parts 80. M. A. most efficacious application for corns, warts and hardened flesh.

4. R Ol. Ricini drs. 2, Tr. Iodine drs. 2. M. Apply t. i. d. over corns and bunions.

5. Acid Acetic Glaciale, A. Chromic, A. Trichloracetic, Argenti Nitras, Hydr. Iodi. Rub. Ung. Hydr. Nitr. Acid. Liq., Oleate of Copper, Papain 542, Resorcine, Sabina.

Vide Warts.

CORRECTIVES OF BITTER AND NAUSEOUS MEDICINES.

1. Bitter and nauseous salines are best taken simply diluted with iced water. A mouthful or two of iced water before or after the dose, to blunt the sense of taste and the dose between them in a wineglassful of iced water, renders it easily taken by most persons.

2. To mask the taste of Antipyrin it is recommended to add an infusion of coffee with milk to the watery solution of the drug. Soda water also with current or raspberry syrup, will both disguise the unpleasant taste of the medicine and lessen its disturbing action.

3. **Elixir Simplex.**—(a.) R Fresh orange peel drs. 2, Star Anise dr. $\frac{1}{2}$, Cardamom grs. 20, Simple Syrup fl. ozs. 6, Caramel grs. 10. Reduce the orange peel to a pulp, add the aromatics in fine powder, displace with diluted alcohol to obtain six fluid-ounces, add the remaining ingredients, and then enough water to make one pint. (O. Eberbach).

Or one still more simple, as follows :

(b.) R Spirit of Orange fl. drs. 4, Stronger alcohol fl. ozs. 4, Cinnamon water, Syrup, â â. fl. ozs. 6.

Mix and clarify with paper-pulp made of sixty grs. of filtering paper (J. F. Hancock). This elixir is adopted by the American Pharmaceutical Association at its 21st annual meeting in 1873, and recommended to be used by physicians and pharmacists.

4. *Ammon. Glycerrizate* 750, *Saccharin* 623, *Yerba Santa* 745.

CROUP.

The treatment of croup proper divides itself into the treatment of three varieties. (1.) **Simple Catarrhal Laryngitis** ; (2.) **Fibrinous Bronchitis or Ascending Croup** ; (3.) **Pure Diphtheritic Croup**.

1. For cases of the first group. *Ipecac.*, *Antimonial Wine* or *Subsulphate of Mercury* with warm applications to the throat and chest, usually meets the requirements of the case. If *dyspnœa* is very bad, a hot mustard bath is useful.

2. In cases of the second group, an atmosphere of steam either from slaking lime or a steam kettle. Further treatment is poultices to the neck and chest, and free stimulation. As regards operative treatment in these cases, *tracheotomy* is of greater advantage than *intubation*.

3. In the third group of cases put the patient at once on large doses of the *Perchloride of Mercury*, under which treatment severe cases of croup were entirely cured in 24 hours. If *dyspnœa* and *cyanosis* become extreme, *intubation of larynx* is useful, which in most cases is followed by good results.

In all these groups the sick room is recommended to be kept at a temperature of 70° F. Nasal injections of Boric Acid, or other mild antiseptic preparations, are also considered useful (Dr. A. Brothers).

4. Mix a tablespoonful of common sulphur in a glass of water and give it by tablespoonfuls every 2 hours, the mixture being previously stirred.

5. Belladonna 81, para 2., *Calcii Lacto-Phosphas* 132, *Calcii Sulphidum* 133, *Cubebæ Oleum*, *Digitalis*, *Eucalyptus*, *Jaborandi* 402, *Lobelia*, *Oxygen Inhalation*, *Papaya* 540, *Pepsine* 548, *Potassæ Chloras* 574, *Quinine*, *Sanguinaria* 636, *Sedum Acre* 654.

CYSTS, CYSTIC TUMOURS, &C.

1. Several cases of *Cystic Goitre*, *Ranula* and other *Cystic* and small *Cystic Tumours*, have been permanently cured or eradicated, after being once opened or operated on, and their interior surface being swabbed with a concentrated solution of *Chromic Acid*. The experience of Drs. Woakes and Lowe have convinced us that *there is no ground for the fear of absorption* of so poisonous a substance in ordinary cases and even large cavities are devoid of danger from this mode of treatment.

2. 25 to 35 mins. of a 1 per cent solution of *Chloride of Zinc*, injected according to the size of the tumour, is very effective for small *cystic tumours*, such as *hygromata ganglions*, *ranula*, &c., Occasionally injection must be repeated, if a sufficient quantity is not used on the first occasion. The cyst becomes hard and œdematous, the œdema disappearing in a few days.

CYSTITIS, VESICAL CATARRH AND IRRITABILITY.

1. *Cystitis in the Female from fissure of the neck of the Bladder* :—The treatment consists in *dilating the urethra slowly with the finger*; to accomplish the same end as when we stretch the sphincter of the anus for fissure in that locality. Immediately after urination a few drops of a 5 per cent *Cocaine solution* injected at the neck of the bladder will at once control the painful tenesmus.

The wool tampon for the vagina will give feeling of great comfort and lessen tendency to spasm of the bladder. *Absorbent cotton should never be used* for the tampon, because when it becomes stony in a few hours it irritates the bladder just as it usually does the uterus. The above treatment failing to cure, the bladder should be opened to give urethra rest. This is best done by introducing a *Sims uterine dilator* through the urethra, pressing the bladder well backward, and then *slipping a scalpel* through the vaginal surface. In one aggravated case recently, the bladder was opened above the pubes, and an ounce of a mixture of *Boroglyceride and Glycerine* was poured into it, twice daily. Boroglyceride and Glycerine is the best thing for any sort of *hypertrophic catarrh*. Clots in the bladder are acidulated with *Citric Acid*; *Pepsin* will digest the thick tenacious muco-pus quickly, and give patients great relief. In old cases with contracted bladder, expansion daily with Davidson's syringe and warm Boric Acid solution will gradually enable the bladder to hold a pint or more of urine. (Dr. Robert T. Morris).

2. Dr. Wm. Semple says most of the cases of *acute cystitis* that have come under his observation have occurred in *young girls* with whom the *menstrual function* had not become regularly established and the attacks have commenced soon after a menstrual period; and in *unmarried women* when the function, before its cessation, becomes irregular. He has not found occasion to resort to the introduction of instruments into the bladder for purposes of examination or treatment since he has adopted the method here recommended. This method consists in the administration by *enema into the rectum* of from forty drops to a drachm of a solution of *sulphate of atropia* (one grain to eight ounces of water), to which is added sufficient carbolic acid to prevent the formation of organic matter and the deposit of atropia. The dose is added to half an ounce of water for administration, and given twice in twenty-four hours. It uniformly and immediately arrests the frequent stranguous painful micturition, gradually checks the mucous and sanguineous discharges, and relieves the supra-pubic pain with the cystic inflammation. When the urine is alkaline, *Mettauer's nitro-muriatic acid* is given to correct it; and when it is so acid as to

irritate, the acidity is corrected by antacid remedies, of which the bicarbonate of potash, with subnitrate of bismuth, is generally preferred, because of the tonic effect of the *bismuth* and its very soothing effect on the mucous surfaces of the urinary organs. When constipation exists, which is frequent, it is relieved as occasion requires, generally by the German *pulvis glycerrhizæ compositus* until the bowels begin to act regularly from the effect of the atropia which generally soon results. Several cases are reported to illustrate the success of this method of treatment.

[True cystitis would hardly yield to treatment by atropia alone but an "irritable bladder"—a condition by no means uncommon in females suffering from uterine disturbances—is quickly relieved by almost any one of the vegetable neurotics, and it is rational to suppose that their administration *per anum* would be more directly serviceable than when used in other ways. Our experience has been that hyoscyamus is even better than belladonna for this purpose.]

3. R Acidi Benzoici dr. 1, Sodii Biborat. drs. $1\frac{1}{2}$, Aquæ ozs. 6. M.

A tablespoonful every 3 hours ; also the same to be injected into the bladder if possible. It is very useful for vesical irritability and frequent micturition with burning pain at the meatus and much straining with alkaline and cloudy urine. If this fails, give also Dover's powder in 3 gr. doses every 2 hours. Recently a woman suffering from cystitis for 3 years was cured by the above both internally and by injection into the bladder in six weeks. Here pelvis was raised with graded cushions to avoid contact of urine with trigonum vesicæ, the most sensitive spot in the bladder.

4. R Ol. Gaultheriæ mins. 16, Bals. Copaibæ oz. 1, Ext. Glycerizæ drs. 4, Liq. Potassæ drs. 2, Sp. Ether. Nitr. oz. 1, Syr. Acaciæ ozs. 6. M. A dessertspoonful four times a day and at bedtime. For *cystitis with much irritation of bladder and constant desire to empty the bladder*.

5. R Borate of Sodium oz. 1, Syr. Raspberry ozs. 3, Inf. Lactucarium ozs. 8, Inf. Linden Flowers ozs. 8. M. One tablespoonful every 2 hours. For *Acute Cystitis*.

6. R Sodii Bicarb. grs. 10, Inf. Uvæ Ursæ drs. 4, Aquæ ad oz. ℥. M. To be given every 2 hours. For Acute Cystitis.

7. F. 1. **Blenorrhagia.**

8. R Iodoform drs. 13, Glycerini drs. 10, Aq. Distil. drs. 2½, Gum Tragac. grs. 4. M. ft. injectio: ½ dr. of this solution to be injected into the bladder, after previous cleansing, in a pint of water. This injection to be made on every third day. After 3 or 4 injections the catarrhal inflammation is much or wholly relieved, in *chronic cystitis*.

9. Tr. Eucalyptus Globulus mins. 20 every 3 hours is valuable in *chronic cystitis with hæmaturia*.

10. R Pot. Nitratis dr. 1, Sp. Juniperi fl. drs. 2, Sp. Ether. Nitr. fl. drs. 3, Inf. Buchu fl. ozs. 6. M. ⅙ part every 6 hours. In *catarrh of the bladder, difficulty of micturition and scanty secretion of urine in old people*.

11. R Acid Boracic part 1, Hot Glycerine parts 5, Warm Water parts 20. M. To be given in teaspoonful doses largely diluted once or twice a day in *catarrh of the bladder*.

12. Other remedies used *internally* and as *injections* into the bladder are : Alchemila, Alkekengi, Arbutin, Belladonna, Betol, Boldo, Calcium Hippuras, Carlsbad Salts 146, *Collinsonia* 211, *Creolin* 231, Caulophyllin and Pulsatilla, *Eucalyptus* 263, Gelsemium 300, para. c., *Grindelia Rob.* 311, Hydrastis Can., Hyoscyamus, *Kava Kava* 435, *Lithonlytics* and *Lithontriptics* (q. v.), Langenbrücken M. Waters, Lycopod. Clav., Manzanita, Matico, Naphthalin 504, Naphthalol 505, *Orthosiphon* 530, *Pitchi* 567, Pot. Permang. ½ p. c. (injection), Pougues M. Waters, *Resorcine* 611, *Saccharin* 624, *Solol* 633, Sodii Benzoas, *Stigmata Maidis* 681, Sulphur, Triticum Repens, Vaccinium Crassifolium.

DANDRIF (PITYRIASIS CAPITIS).

1. (Sp.) R Resorcini, Ol. Olivarum, Æther. Sulph. á á. dr. 1, Sp. Vini Rect. ozs. 6½. To be well shaken, and applied to the scalp by a bristle brush about twice as large as the ordinary mucilage brush, by insinuating it between the locks of hair. The head

to be well washed with soap and warm water twice a week. G. C. Stephen, L. R. C. P., noticed this plan of treatment as being very successful for persistent dandriff, &c.

2. R Chloral Hydrate drs. 6, Aquæ ozs. 16. M. To be rubbed well into the scalp every 2nd or 3rd day. Dry and dress the hair with F. 6. under **Alopecia**. For Dandriff.
3. R Sulph. Subl. drs. 2, Plumbi Acet. dr. 1, Sodii Biboratis dr. 1, Sodii Chloridi drs. 2, Glycerini ozs. 4, Aquæ ozs. 4, Ol. Rosemary to perfume. M. It cleanses the head from dandriff, prevents hair from falling off and promotes the growth of new hairs. Changes the grey hair to its original colour and keeps them moist and soft.

DEAFNESS.

1. (Sp.) R Sp. Tinct. of Lobelia, Tr. Opii, Oil of Hemlock, Oil of Sassafras, Oil of Wintergreen, Olive Oil, à à dr. I. M. Apply lint wet with this liniment, in the ear night and morning, then syringe out with warm water and soap. *Inveterate cases of deafness* have been cured with this liniment (Dr. Hamilton).
2. R Ol. Gaultheriæ 1 part, Ol. Olivæ parts 3. Few drops to be put into the ear for deafness from pharyngitis, tonsillitis, &c. This should be *combined with electricity applied in the ears*.

3. Hypodermic injection of 5 to 8 drops of a 2 p. c. solution of Pilocarpine in the neighbourhood of the ears is useful in cases depending on following causes :—(a.) Deafness caused by acquired or inherited syphilis, due to changes either in the internal or middle ear. (b.) Deafness due to hemorrhage or exudation in the internal ear. (c.) Cases of chronic catarrh, with recurrent exacerbations. (d.) Cases of sclerosis or dry catarrh, but only in the initial stages. Normal hearing is very rarely restored in this class of cases, but one can frequently arrest the progress of the disease.

4. *Mopping the membrana tympani* with a weak oleaginous solution of *Phosphorus* is effective in curing deafness of *old people*. 62 cases have been cured by this.

5. **Acoustic Balsam** :—R Tr. Benzoini, Tr. Castor, Tr. Opii, â â. drs. 4, Ess. Oil of Assafoetida mins. 4. One or two drops poured into the ear.

6. **Acoustic Oil** :—R Ol. Amygd. Dulc. drs. 4, Ol. Terebinthinæ mins. 40. For deafness.

7. R Ol. Cajeputi mins. 30, Ol. Olivæ drs. 2. M.

8. A combination of Phosphorus, Iron, Quinine and Strychnine internally is useful in cases of *deafness from debility of nerve*.

9. Sanitas Oil 643, para 7. (q. v).

10. (Ind.) Juice of the leaves of Cleome Viscosa dropped into the ear is a household specific for deafness, otorrhœa and earache.

DELIRIUM.

Duboisia 240, Ergot 242, para (b.), Gelsemium 301, Hyoscine Hydrobrom. 361, Sulphonal 696.

DELIRIUM TREMENS.

1. In the first place the patient should be placed in a dark quiet room well ventilated and all but the attendant nurse should be excluded. When the disease comes on during a debauch or shortly after and there is reason to suspect that the stomach contains alcoholic or malt fluids, an emetic should be prescribed ; the best for this purpose is warm water, mustard or ipecac. or if necessary, the stomach pump used. If the emetic has not acted on the bowels as it often does, a brisk purgative may be given (though not advisable in all cases) yet it is a safe way of getting rid of the alcohol which impedes the absorption of food. The patient is thus put to bed under the care of a skilful nurse who gives by direction :—

R Tr. Digitalis drs. 4 to 6, Tr. Capsici drs. 2, Sp. Etheris Co. drs. 4, Aquæ Camph. q. s. ad ozs. 2. M. Sig. Two tablespoonfuls well diluted with water at intervals of 3 or 4 hours ; should the first dose not pacify the patient, a second should be given ; only rarely is it necessary to administer a third dose but in such cases only a single tablespoonful should be given. The patient will now rest quietly for 8 or 10 hours. On waking the patient

should be given milk, soups, beeftea, eggs, but if there be much nausea or sickness Harsford Acid Phosphate, Soda Water or milk with lime water. If the patient is an habitual drunkard, old or feeble or if there are signs of an adynamic condition the most serviceable are brandy, porter, cider, &c., which should be given as the symptoms require it.

2. (a.)—Place the patient in as complete a state of muscular repose as possible; for muscular activity exhausts the nervous system. Should his delirium be of a violent kind, *Chloroform* would be a better and safer remedy than the *strait-jacket*. (b.) All sensational stimuli should be removed and all emotions as far as possible prevented. (c.) Food of a suitable kind given from time to time, no alcoholic stimuli of any kind being given, unless specially indicated. (d.) When there is tendency to diaphoresis it should be encouraged as an eliminatory process. (e.) The surface and especially the feet, should be kept comfortably warm. (f.) An experienced nurse should attend the patient. (g.) In addition to these general rules give hypodermic injection of $\frac{1}{2}$ gr. of Morphia followed by an internal administration of:—

R Chloral Hydrate, Tr. Capsici â â drs. 4, Aquæ Menthæ Pip.
ozs. $5\frac{1}{2}$ M. A tablespoonful every 2 hours till sleep is produced.

3. F. 5. Alcoholism.

4. Caffeinæ Hydrobrom., *Camphor-Chloral* 134, *Camph.* *Monobrom.* 135 to 6, Cannabin Tannas, Capsicum 141, Ergot 243 para. (d.), *Jamaica Dogwood* 417, Lupuline, *Methylal* 496, *Nutmeg* 500, Opium, Paraldehyde, *Sulphonal* 695, Sumbul, Urethane, Valerian, Veratrum,

Vide Alcoholism and Dipsomania.

DENTISTRY.

Dentition.

1. When the dribbling of the urine from incontinence is copious, saturation of the clothing over the bosom should be prevented by a slavering-bib covered with rubber cloth or other impervious material. An over secretion of saliva may be restrained by *Belladonna*. As little as a drop, or even a half drop, of the tincture once in four hours may do as well as more. A teething child likes to press its gums against

hard substances. The *rubber ring* now made for the purpose answers it better than the bit of wood or the coin of my infant days. The *pretzel** does very well also. Though it is rather the fashion now to condemn the use of the *gum-lancet* altogether, when a tooth is nearly through, and the gum is seen to be tense over it, a *free cross-incision* may liberate the crown and give quick relief to a suffering child. I would advise you not to use the lancet for a simple elevation of the gum, for that is no sure indication that the crown is near the surface. Such an appearance may come and go several times before the tooth has erupted ; in fact, we may never safely predict the speedy cutting of a tooth unless its sharp edge can be felt beneath the gum. If there is *gingivitis*, *scarifying the gum* by *light touches of the lancet* will lessen the *hyperæmia*, and afford some relief. For *feverishness*, *nervous erythism*, and *fretfulness*, the *Bromides* will render good service. From 2 to 5 grs. in solution with syrup, flavoured with *peppermint* or *winter-green*, may be given and repeated as may seem necessary. If the infant is *over-wakeful*, an equal quantity of *Chloral* may be given in similar solution. *Aconite* should be given only in *small* doses, repeated often. Put from 5 to 12 drops of the tincture in a full goblet of water, and give a teaspoonful every 15 minutes for 2 hours ; then every hour.

It must not be forgotten that a *profuse diarrhœa*, with *dentition*, is as *exhausting* and as *certainly fatal*, if not checked, as though due to any other cause. So, if the movements should exceed three or four in the day, they must be controlled.

In *convulsions*, if there is a *tense gum* over a crown that can be plainly felt or seen, there can be no harm in making a *crossed incision* through it. Very generally, however, other treatment will be needed, as the hot bath and the bromides, with or without chloral. When there are threatenings of convulsions, I treat them with a light dose—one to three grains—of *calomel* or *hydrargyrum cum creta* (two to five grains), with about the same quantity of *powdered rhubarb*, or followed after some hours by a dose of *castor oil*. Besides that, I give one of the bromides in such doses and at such intervals as may be necessary to control the convulsive tendencies. (Dr. Wm. T. Plant).

* Pretzel = bread salt—a kind of crusty rye bread much affected by Germans and German-Americans.—[Ed. M. R.]

2. R Antifebrine grs. 16, Hydrarg. c. Creta grs. 10, Glycerrizæ Pv. grs. 20, Camphor grs. 12, Morphia gr. 1. M. ft. pulv. 16. One every 3 hours in whisky and sweetened water. For teething of children with loose bowels, restless abdomen and fever.

Dentifrices, Dental Soaps, and Washes.

1. R Acid Boracic grs. 40, Pot. Chloratis grs. 30, Guaiaci Pv. grs. 20, Cretæ Prep. dr. 1, Otto de Rose min. $\frac{1}{2}$, Magnes. Carb. ad oz. 1. M. An antiseptic, strengthening, cleansing and very delicate dentifrice, removing bad odor from the mouth, strengthening the gums and removing tartar from the teeth. Instead of Otto de Rose, I employ Oleum Sanitas mins. 20 with better effects.
2. Calc. Carb. Præcip. ozs. 4, Cretæ Prep. ozs. 2, Cort. Chin. fusc. ozs. 2, Myrrh. Pulv. oz. 1, Caryophylli Pulv. drs. 4, Ol. Cinnam. mins. 10 to 20. M. A dentifrice acting as a prophylactic against decay of the teeth.
3. R Cretæ Precip. parts 18, Camphoræ Pv., Sapo. Castile Pv., Magnes. Carb., Boracis Pv., â â. parts 9. M. ft. dentifrice.
4. R Magnes. Carb., Rhizom. Irid. Florent., Talci, Sapon. Medicatæ, â â. drs. $1\frac{1}{2}$, Ol. Ment hæ Pip. mins. 10, Mucil. Gum. Acaciæ q. s. ut ft. massa. This tooth soap is preferred against tooth powders as the latter stop and block up caries instead of cleaning them.
5. R Thymol grs. 4, Acid Benzoic grs. 90, Fol. Eucalypti drs. 4, Alcohol Abs. ozs. $3\frac{1}{2}$, Ol. Gaultheriæ mins. 25 or Ol. Ment hæ Pip. mins. 20. M. ft. tinctura. Add a tablespoonful of this to a tumblerful of water. Rinse mouth with this after every meal. An antiseptic gargle for diseases of teeth.
6. Acid Boracic 7, Beta-naphthol 100, Hazeline 322, Potentilla Can. 576, Punica Granatum 584, para 2, Rumex Crispus 621, Sodii Fluosilicas 663.

Odontalgia (Toothache).

1. (Sp.) R Camphor grs. 75, Chloral grs. 75, Cocaine grs. 15. M. A small piece of cotton dipped into it and put on the intensely painful tooth, gives an instantaneous and marked relief.

2. (Sp.) R Creasote, Chloroform, Ol. Menthæ Pip., Ol. Caryophylli, Ol. Camphor, Acid Carbol. $\hat{a} \hat{a}$. partes equales. M. A piece of cotton wool soaked into it and placed in the cavity or hollow of a decayed tooth, taking care not to touch the lips or skin at the corners of the mouth, is effective for relieving pain and stopping further decay.
3. R Tr. Iodine mins. 10, Acid Carbol. Dil., Chloroform, $\hat{a} \hat{a}$. mins. 30. M. Apply to the gums.
4. R Ext. Opii, Bals. Peru, $\hat{a} \hat{a}$ grs. 8, Mastiche grs. 15, Chloroform ozs. $2\frac{1}{2}$. M. Moisten a piece of cotton and put into painful tooth.
5. Burn Hyoscyamus seeds and convey the smoke through a little paper tube to the hole in the tooth. In all cases, merely one application or at most two, will suffice to cure the toothache.
6. Gretschinsky has found a decoction of Rhamnus Catharticus gives complete cessation of pain when introduced into the cavity on a bit of cotton. Ten parts of bark to be boiled in water which upon standing will leave 20 parts of liquid, to which one part of alcohol to be added.
7. The oil of *Thymus Thymbrae*, which is used either in the form of oil, or by chewing the fresh leaves, is, according to Prof. Landerer, one of the *promptest remedies against toothache* known.
8. If the various applications just mentioned fail to relieve pain in obstinate cases, then hypodermic injection of $\frac{1}{8}$ to $\frac{1}{4}$ gr. of Pilocarpine into the side of painful teeth, will stop pain at once.
9. *Chaulmoogra* Oil 159—60, Chloral Hydrate 166, Eucalyptine 265 (b.), Hazeline 322, Ichthyol 371, Jamaica Dogwood 417—18, Menthol 490, para 8, Sod. Chloride 661.

Dental Caries, Filling, &c.

1. Phosphate and Hypophosphite of Lime are given in pregnancy to prevent decay of the teeth.
2. Cocaine 190, Eucalyptine 265, Hydrogen Peroxide 354, Menthol 490, Sanitas Oil 643—4.

Extraction of Teeth and Stumps.

1. The following has given the best results, especially for the extraction of stumps, the objection being its powerful odour :—

R Æther Pur. ozs. 6, Menthol drs. 4, Ext. Cannab. Ind. grs. 80,
Ol. Menthæ Pip. dr. 1. M.

It was used in the extraction of a broken-down first upper molar, and though it had to be extracted in two pieces, not the slightest pain was experienced. Such was the testimony of my patient and he was the better judge (A. British dentist).

(2.) Cocaine 190. (3) Jamaica Dogwood 418.

DERMATOLOGY.

1. R Acidi Arseniosi grs. 6, Pv. Glycerrizæ grs. 30, Antimonii Sulph. grs. 90, Ext. Gent. grs. 60, Saponis grs. 20. M. ft. pil. 48. One t. i. d. after meals. The late Dr. Wickham employed this formula for *forty years in scaly affections of the skin*, with the utmost success. Although the dose, gr. $\frac{1}{8}$, is apparently a large one, he never saw any bad results from it.

2. **Ayer's Sarsaparilla** :—R Ext. Sarsæ, Ext. Rumic. Crisp., â â. ozs. 3, Ext. Stillingiæ, Ext. Podophylli, â â. drs. 2, Pot. Iodidi drs. $1\frac{1}{2}$, Ferri Iodidi grs. 10, Sacchari oz. 1, Sp. Vini Rect. ozs. 3. M. Dose : 1 to 2 fl. drs. in water after meals. For Scrophulous, Syphilitic, and other cutaneous diseases, impurities of the blood, &c.

3. **Medicated Soaps containing Soda with medicinal substances** :—

(a.) **Alum Soap, 10 per cent.**—Is useful in Hyperidrosis and Seborrhœa. Is useful in all indolent conditions of integument *Lupus, Cancer, Scrophulous and Syphilitic* skin affections. Has both stimulating and astringent action.

(b.) **Arnica Soap, 10 per cent.**—In *sore nipples* and in many *inflammatory affections* of the mucous outlets of the body. Useful for *abrasions, wounds and bruises of the integument*.

(c.) **Boroglyceride Soap, 10 per cent.**—Preferable to either Borax or Boric Acid Soap and possesses antiseptic and deodorant properties and is useful particularly for the destruction of minute organisms. Valuable for *cleansing wounds, ulcers, suppurating gangrenous surfaces*, lessening inflammation and preventing the action of atmospheric germs. General and local pruritus of the skin, especially *pruritus of the genital organs and the anus* is benefited and relieved by its use. Is valuable in *Acne and Seborrhœa*, freeing the surface, in the latter disease, of crusts and scales and lessening accumulation of abundant secretion. The roughened, reddened, and irritable state of skin in this disease and in *acne rosacea* is often removed by the use of this soap.

(d.) **Chamomile and Sulphur Soap, 10 per cent.**—In *Seborrhœa Sicca* on any part of the body but more particularly on scalp or portions covered with hair, it has a decided effect in carrying off the scales or crusts. Loss of hair from *Dandriff* or *Seborrhœa Sicca*, can be relieved or checked by it. A greasy shining complexion attended with numerous small elevations or pimples, a form of *Acne* common to young women from either gastric or menstrual disorders often yield to it.

(e.) **Eucalyptol Soap, 5 per cent.**—Is useful application to all *foul smelling wounds and ulcers* and in *fœtid perspiration*.

(f.) **Naphthol Soap, 5 per cent.**—It is a most useful soap, having stimulating, astringent and some anæsthetic effect upon the skin. *Animal parasites* on the skin or in the clothes are destroyed by its application. *Lousiness of the pubic or axillary regions* could be easily, cleanly and quickly destroyed by naphthol soap. Is useful for *Scabies or Itch*. The bites or stings of many insects or animals are cured or relieved by its use. *Psoriasis, Ichthyosis and Pityriasis* are benefited by its use. *Fœtid perspiration* is not only controlled but is cured by its use.

(g.) **Salicylic Soap, 4 per cent.**—Is excellent for its antiseptic action and is far superior to Carbolic Soap. Is useful for thickened conditions of the epidermis of the plantar, palmar and exterior surfaces. Is useful in *Sycosis, fœtid perspiration* and all *foul smelling surfaces*.

(h.) **Sublimate Soap (Corrosive Sublimate, 1 per cent.)**—Is useful in animal parasitic diseases as *Phthiriasis* or *Lousiness*, *Scabies* or *Itch* and destroying insects of all kinds infesting the body. *Freckles*, pigmentary deposits, especially *Chloasma* and yellowish brown or blackish patches on the skin are relieved by it. The red and roughened state of the skin following eruptive fevers, as Small Pox, is improved by its use. Is useful in *Pruritus Ani* and *Pudendi* and *Syphilitic skin eruptions*.

4.—Medicated Soaps with Ammonia and Soda:—

(a.) **Naphthol-Sulphur Soap, 3 per cent. of Naphthol and 10 per cent. of Sulphur:**—Is used in *Scabies*, *Phthiriasis* (*Lousiness*), presence of insects of all kinds on the skin, *Eczema*, *Psoriasis*, *Seborrhœa*, *Hyperidrosis*, *Bromidrosis*, &c.

(b.) **Iodide of Sulphur Soap:**—Is useful in *Acne Indurata*, *Chronic Ulcers*, *Freckles*, yellowish brown or blackish patches on the skin.

Vide Soaps, page 458.

5. *Berberis Aquifolium*, 88, (report 4), and 99; *Cocaine* 191, *Hamamelis* 321, *Ichthyol* 366 to 67, *Jaborandi* 403, *Lanolin* 454 to 55, *McDade's Succus Alterans* 482, *Pulsatilla* 582, *Resorcine* 610, *Sanitas Oil* 648, *Sanitas Fluid* 648, *Trifolium Compound* 713.

Vide Alteratives.

DIABETES INSIPIDUS. (POLYURIA.)

1. *Ergot* is used with decided success by various practitioners. Da Costa noted a very decided improvement under its use in 2 cases and attributes this effect to capillary contraction in either the kidneys or the nervous centres. Given in a dose of 1 to 2 drs. of the fl. ext. t. i. d., the drug causes rarely inconvenience.

2. *Valerianate of Zinc*, and the *Tinct. or Inf. of Valerian* are beneficial if persisted in for a sufficient length of time, as in the following formulæ:—(a.) *R Pil. Phosph. Mollis* gr. 1½, *Zinci Sulph.* gr. 1, *Ext. Valerianæ* grs. 2. *M. ft. pil.* 1 to 2 pills t. i. d. (b.) *R Sodii Salicyl.* grs. 15, *Inf. Valer.* oz. 1, *M. Give* t. i. d.

3. Althaus and Clubbe found *protracted faradization of the renal zone or galvanization of the medulla oblongata* to also give satisfactory results.

4. Acid Nitric Dil., Antipyrin 61, Bromides, Geranium, Jaborandi, Manzanita, Phenacetin 557. (c.), Rhus Arom. 614, Strychnine.

DIABETES MELLITUS. (GLYCOSURIA.)

1. **Diabetes of Arthritic Origin :—**(a.) Before *break-fast and dinner* give 5 grs. of *Lithiæ Carbonas* in a tumbler of *Vichy* or *Vals Water* ; 2 drops of *Liq. Arsenic* may be added to each dose. (b.) Give after meals, in a little coffee sweetened with *Saccharine*, 15 grs. of *Antipyrin*. (c.) *Sponge the body* all over every day with warm water containing a little *Eau de Cologne*. Energetic *dry friction* with a *hair glove* after the sponge-bath. (d.) Require the patient to *rinse the mouth*, after carefully brushing the gums, after meals, with the following antiseptic solution, for the purpose of preventing purulent gingivitis, which may be the starting point of systemic infection :—

R Acid Boric 25 grms., A. Carbolic 1 grm., Thymol .25 grm., Aquæ 1 litre. Add to these : Sp. Anisi 10 grms., Sp. Menthæ Pip. 10 mins., Alcohol 100 grms, Cochineal q. s. to colour. M. To be diluted with as much water before using. (e.) Pursue with rigor the *dietetic* treatment (q. v.).

(f.)—*Regular daily exercise* to be taken. All bodily exercise^s are favourable. Insist especially on fencing, boxing, walks in the open air, mountain excursion, &c. (Dujardin-Beaumetz.)

2. R Sodii Arseniatis gr. $\frac{1}{25}$, Lithiæ Carb. gr. $1\frac{1}{2}$, Ext. Gent. gr. $\frac{3}{4}$, M. ft. pil. To be taken morning and evening and continued till sugar has disappeared from the urine. A *convenient formula* in pill form for the above-described *arseniated lithia water*.

3. *Liq. Arsenici Bromatus* in doses of 3 to 5 drops t. i. d. has been used successfully in diabetes mellitus, with strict observance of the dietary (q. v.).

4. R Jambul Pulv. grs. 5, Codeinæ gr. $\frac{1}{2}$, M. ft. pulv. Give t. i. d.
Vide pg. 424.

5. Inf. Cort. Syzyg. Jambul (30 in 300), 10 ozs. taken in 2 days.

6. R Iodoform, Chinoidin, Ferri Redacti, â â gr. 1, M. ft. pil.
 Give t. i. d.

7. Sulphonal diminishes the quantity of sugar in the urine, also reducing the polyuria and the thirst. These results were obtained by doses of from 5 to 30 grains per diem, but not to so marked a degree as with doses of 45 grains continued for several days. The 30 grain doses could be administered for some time without any ill effects; but although the 40 grain doses at first caused no disturbance, it was found that, when they were continued for any lengthened period, they caused giddiness and excessive sleepiness, which disappeared when the drug was discontinued. Sulphonal was used with good results in conjunction with both a mixed diet and a strictly meat diet; in the latter case a large quantity of sugar appeared in the urine as soon as the sulphonal was stopped. In the only case in which antipyrin had been previously used it was found to exert less influence than sulphonal. (Dr. Casarelli).

8. (a.) R Acid Salicyl. drs. 2, Sodii Bicarb. dr. 1, Ammon. Carb. dr. 1, Aquæ oz. 1; when effervescence has subsided, add water to ozs. 12. M. 1 to $1\frac{1}{2}$ ozs. t. i. d. Very effective for *Rheumatic Glycosuria*. (b.) *Salicine* in doses of 45 to 90 grs. per diem before meals is also successful.

9. A boy aged 14, suffering from diabetes mellitus, with all the symptoms in an aggravated form, was cured by the use of Boracic Acid in 7 gr. doses t. i. d.

10. **Diabetes Mellitus in Children:**—The Regulation of the diet forms the most important feature of the treatment. Sour milk, to which Glycerine and mannite were added, with three parts of boiled water to one of milk, was given to nursing-infants with satisfactory results, the sugar disappearing permanently from the urine. The diet for older children was limited to soup, roast meat, raw eggs, cheese, and sour milk, sugar and starchy food being prohibit-

ed. *Cod-liver oil and iron* were also given with satisfaction. The *alkaline carbonates* were found serviceable, also *large doses of mineral acids*, which were given before breakfast and dinner. To the foregoing list of medicinal agents might be added the *acetate and sulphate of iron, and salicylate of soda*. (Dr. Stein).

11. Acid Carbohic, Antipyrin 61, Calcium Hippuras, Carlsbad salts 146 (4.), Cinchonid. Benzoas, Cocaine 193, Coffee (green), Creasote, Exalgine, Hydrogen Peroxide, Ouabain 766, Phosphate of Lime, Phosphoric Acid, Pot. Permanganate 552, Rhus Arom. 614, Saccharin 622, Spermine 676, Thymol, Uranium Nitrate, Vichy Water.

Dietary (*Dr. Pavy*) :—(A.) **Diabetic patient may eat :**

1. *Meats of all kinds (except liver)* ; ham, bacon, or other smoked, salted, dried or cured meats. *Animal soups not thickened*, beef tea and broths. (For soups, Dr. Dujardin—Beaumetz recommends principally cabbage soups, bouillon with poached eggs, chicken broth, onion soup, mutton broth, &c. ; all these soups should be taken without bread or crackers). 2. Poultry. 3 Game. 4 Mollusks. 5 Crustaceans. 5 *Oyster and fish of all kinds*, fresh salted or cured. (Dr. D. Beaumetz urges the *free use of fatty foods*, such as sardines in oil, tunny-fish with oil, sour herring with oil, pork, *pâte de foie gras*, *rillettes*, bacon fat, &c.). 5. *Eggs* dressed in any way. 6. The *almond, bran, gluten, soja and fromentive* breads. 7. Cheese, cream cheese, butter, and *cream in moderation*. 8. Spinach, turnip tops, * French beans, string-beans, * Brussels sprouts, greens, * cauliflower, * broccoli, cabbage, * asparagus, * seakale, * vegetable marrow, mushrooms, water-cress, mustard and cress, cucumbers, lettuce, radishes, young onions, celery, salads, artichokes, oyster-plant, parsley, chickory, endive, dandelion and tomatoes. 9. Olives. 10. Pickles. 11. Vinegar. 12. Oil. 13. Jelly, flavoured, but not sweetened ; savory jelly. 14. Black mange made with cream, and not milk. 15. Custard made without sugar. 16. Nuts of any description (except chestnuts), viz., filberts, pecan-nuts, almonds, butter-nuts, walnuts and cocoanuts. (Drs. Austin Flint and N. S. Davis, allow lemons, gooseberries and currants).

* These may only be eaten in moderate quantity, and should be boiled in a large quantity of water.

(B.) **May drink :** (1.) Tea, coffee, Cocoa from nibs, mate and kola, sweetened with pastilles of Saccharin or with Glycerine. (2.) Dry Sherry, Claret, dry Sauterne, Burgundy, Chablis, Hock, Brandy, and spirits that have not been sweetened ; soda water ; Burton bitter ale, in moderate quantity. (Dr. D. Beaumetz allows with the meals wine diluted with Vals or Vichy Water).

(C.) **Must avoid eating :** 1. *Sugar* in any form, *syrups* of every sort and *honey*. 2. *Sweetmeats*, pastry and puddings of all kinds, viz., pies, cakes, custards, &c. 3. *Preserves*. 4. *All amylaceous foods and preparations*, viz., arrow-root, corn-meal, oat-meal, sago, tapioca, barley, wheat and rye flour, wheaten bread and *ordinary biscuits* of all kinds, maccaroni, panada, vermicelli. 5. All sauces and gravies containing *flour*. 6. Beets, carrots, parsnips, rhubarb, turnips, Spanish onions, peas, beans, and potatoes. (Dr. D. Beaumetz allows with each meal 3 ozs. of boiled potatoes). 7 *Sweet fruits* of any kind, fresh or preserved, viz., apples, bananas, pears, chestnuts, figs, grapes, prunes, &c.

(D.) **Must avoid drinking :** 1. Milk, except sparingly. 2. Chocolate. 3. Sweet ales, mild or old ; porter and stout ; cider, malt liquors, champagne and other sparkling wines, sweet wines, &c. Port wine, unless sparingly.

New qualitative and quantitative tests for sugar in the urine :—Tests No. 1, 2 and 3 are all used in connection with *Sodium Carbonate* in the manner described. The presence of albumin and uric acid in the urine does not interfere with any of these tests, which are capable of detecting the smallest quantities of sugar that can be considered pathological. (Parke, Davis).

1. **Mulder's Indigo-Carmine Test :—**This is an *exceedingly sensitive test* for diabetic sugar, and its indications may be accepted as *infallible*. Place in a test tube 30 mins. of water with an *indigo-and-sodium-carbonate* tablet. (The quantity of sodium carbonate in the tablet is usually sufficient, but when very hard water is used to form the solution, or the urine is exceedingly acid, the addition of a sodium carbonate tablet becomes necessary). Heat the tube gently until the *indigo* is dissolved. Add to the *blue solution* from a pipette *one drop of the urine* to be tested, and keep the

fluid to the *boiling point*, without, however, permitting active ebullition, *for sixty seconds*. If no change is produced add a second drop of the urine, and heat once more. If any notable quantity of sugar is present, the fluid will be observed to change from pure blue to violet, then to purple and red, and finally will fade to a pale yellow. If there is only a trace of sugar, the color will merely change to one of the intermediate shades.

☞ Normal urine itself produces a reaction if added in sufficient quantity, 5 to 8 drops generally being sufficient to change the colour to purple or red. If however no more than one or two drops of the urine be employed in the test, a change in colour is proof that sugar is present in abnormal quantity.

☞ *Caution.*—If the tube is agitated during the experiment so that the fluid is brought in contact with the oxygen of the air, the reaction is retarded. Indeed the blue color of the solution may be momentarily restored even in presence of a large excess of sugar by vigorously shaking the tube, and the color can be discharged and restored repeatedly, by the alternate action of the sugar and the oxygen of the air.

Quantitative Estimation of Sugar by Indigo Carmine.—The test tablets may be made to yield approximate quantitative results, by observing that the colour of 30 mins. of a pale blue solution of indigo is *changed to yellow* by heating one minute with one minim of a urine containing ten grains of sugar to the fluidounce, or by heating two minutes with one minim of a urine containing five grains of sugar to the fluid ounce. For exact work it is necessary to have tablets especially prepared, such as, “*Messrs. Parke, Davis and Co's. Urinary Test Tablets,*” containing a definite quantity of the reagent, but a rough approximation to the truth may be based upon the statement just made, and information of great value may be thus obtained in observing the influence of remedies in a case of diabetes. If the quantity of sugar is smaller than that named, the change of color will be only partial, but exact quantitative estimations are of less importance in these cases than where the amount is more considerable. In case the urine contains more than ten grains of sugar to the fluidounce, it will be necessary

to dilute it until it is reduced to that strength. If four times its volume of water is required to effect the change in one minute, the urine must contain $5 \times 10 = 50$ grains of sugar to the fluidounce.

2. **Boettcher's Bismuth Subnitrate Test**:—When boiled in the presence of an alkali, *bismuth subnitrate* is reduced to a suboxide, by grape sugar, the reduction being indicated by a change in the color of the bismuth, varying from a *light yellow to black*, according to the quantity of sugar present. So far as is known, *sulphur* is the only substance likely to lead to a misinterpretation of results, and its presence in albuminous, bloody, or purulent urine is readily detected by the employment of lead oxide. The test is applied as follows:—To 30 minims of suspected urine, add a tablet of bismuth subnitrate, three tablets of sodium carbonate (a large number if the urine be unusually acid) and boil for at least one minute. If now, either sugar or sulphur be present, the bismuth will undergo a change of color, and in order to determine to which of these substances the reaction is attributable, in another portion of the urine *substitute a tablet of lead oxide for the bismuth*, and proceed as before. If the coloration in the previous test was occasioned by sulphur, the lead oxide will at once be reduced to a *black sulphide*, but if by sugar, no change will result.

3. **Dr. Geo. Johnson's Picric Acid Test**:—When an alkaline solution of Picric Acid is boiled with a little glucose, *Picramnic Acid* is formed, and the color of the solution changes to a *garnet red*. To apply the test to the urine, put in a test tube one of the picric acid tablets with 29 minims of water and two of the sodium carbonate tablets, add 10 minims of the urine and boil sixty seconds if necessary. The color of the mixture always darkens perceptibly, but if sugar is present the change is much more prompt and decided than in the case of normal urine. If the color changes rapidly to a *dark red*, repeat the experiment with 5, 3 and 1 minim successively, to form an approximate estimate of the quantity of sugar present. If one minim gives a strong reaction, dilute the urine until a single minim of the dilute fluid gives only a deep *amber color with a distinct shade, however, of red*. In a diluted urine this reaction will indicate the presence of about one grain of

sugar to the fluidounce. About the same shade of color is generally produced by two minims of the normal urine, so that there should be deducted from the result obtained about half a grain to the fluidounce, as "normal sugar." This test should always be confirmed by the indigo carmine test, since there are other substances than sugar—notably *kreatinine* —which react like glucose with picric acid.

4. **Böttger-Nylander's Test.**—Take 2 of a basic salt of the potassic tartrate of sodium, and 100 of an eight per cent. sodic solution. Of this solution, 1 part is taken to 10 parts of urine, which is boiled one minute, but never exceeding two minutes, when a dark solution will be obtained on cooling from the oxidation of the bismuth. This is a very sensitive test, detecting the presence of .08 per cent. of sugar. It is necessary, however, before applying the test *to remove any large quantity of albumen and mucin* from the urine, or the presence in those bodies may combine with the bismuth. Again, the solution *must not be boiled too long*, or the organic matter in the urine may become black.

5. **A simplified and highly sensitive Test:**—This test depends upon the fact that the paper used for the manufacture of visiting cards contains a large quantity of potash to make it heavier and fuller. When this paper is brushed over with a *concentrated solution of sulphate of copper* and then dried, the salt is crystallised on the surface. If the urine containing sugar is then added by means of a bit of wood and allowed to dry by the action of the air, or by holding it over an Argand burner (without browning the sulphate of copper), the latter is liquefied by the water contained in the small crystals, and the alkaline paper immediately produces the *sugar-browning reaction*. The more sugar the urine contains, *the darker the colour* produced. (Dr. Becker, of Cairo).

5. **A best and unstable modification of Fehling's solution**, for testing for, and estimating, sugar in urine:—Take 35 grms. of Cupri Sulph. and dissolve it in 200 cubic centimetres of water; then add 80 grms. of Sodium Hydrate dissolved in 400 cubic centimetres of water and boil the whole for 15 minutes. After boiling the solution is made up to one litre with distilled water and allowed to stand until it is clear.

6. **Grismer's Test.**—16 drops of urine are diluted with 5 times the volume of the *Safranin solution* (1 to 1000), and boiled with 30 drops of Caustic Potash solution. If the urine contains *sugar*, the solution is *decolorized*. The test possesses advantage over *Fehling's test* in that it is not decolorized by *Uric Acid*, *Creatinin*, *Chloral*, *Chloroform*, *Peroxide of Hydrogen*, or salts of *Hydroxylamin*. On the other hand the solution of *Saffron and urine* is completely decolorized by *Albumen*, but only after very prolonged contact.

7. **Penzoldt's Test.**—Some drops of *Liq. Plumbi Acetatis* mixed with some drops of *Ammonia*, are placed into a test tube half filled with urine. If sugar be present, the precipitate will be *rose coloured*, if not, *white*. This is a pretty good and sensitive test.

8. **Fischer-Jaksch's Test** :—6 to 7 centimetres of urine are taken, to this is added twice as much as will go on the point of a knife—"Zwei messerspitzen voll"—of the salt of *Phenylhydrazin*, with three times as much as will lay on the point of a knife of the *Acetate of Sodium*, and then heat is applied, but if the salts will not dissolve more water is added. This mixture is placed in boiling water, allowed to remain from 20 to 30 minutes, and then removed to a beaker of cold water, when the *yellow crystals or plates of Phenylhydrazin Glycose* will fall to the bottom, and are easily distinguished by the microscope. *Brown globules* are no proof of the presence of sugar.

9. **Test for quantitative determination of sugar in the urine.**—It is an improvement upon *Fehling's* and *Pavy's test*, and is entirely *stable*, *simple* and *rapid* in application, *exceedingly accurate* in results and admirably adapted for *clinical purposes*. The formula is as follows :—

R Cupric Sulphate, pure, 4.15 grms., Caustic Potash, pure, 20.4 grms., Strong Ammonia (sp. gr. 0.90) 350 c.c., Pure Glycerine 50 c.c., Distilled water, to 1 litre.

Prepare by dissolving the copper sulphate in part of the water and adding the Glycerine. In another portion of the water dissolve the caustic potash. Mix the two solutions and add the ammonia. Finally, with distilled water bring the volume of the whole to one litre and filter, The principle upon which the application of this test

depends is the fact that a solution of cupric sulphate of definite strength, combined as in the formula, is reduced at the boiling point by a definite quantity of grape sugar, causing the complete disappearance of the beautiful blue colour, and leaving a perfectly clear and colourless fluid as the result. Thus 30 c.c. (fl. oz. 1.) of the solution is reduced by $\frac{1}{4}$ gr. of grape sugar upon boiling.

To determine accurately the quantity of sugar in any given sample of urine proceed as follows :—

Add 30 c. c. (fl. oz. j) of the test solution to a similar volume of distilled or soft water in a glass flask and boil. While gently boiling add the urine to be tested slowly, drop by drop, from a minim dropper, until the blue colour *begins to fade* ; then continue dropping, but more slowly—10 or 12 seconds elapsing between each two drops. The number of minims which completely discharge the blue colour contain just $\frac{1}{4}$ gr. of sugar. By multiplying this number of minims until the product is 480 (1 oz.), the multiple thereof is the number of quarter-grains of sugar to the ounce which if divided by 4, gives number of grains of sugar in each ounce of the urine submitted to the test. Upon cooling, it will be observed that the blue color slowly returns to the test solution. This is due to the absorption of oxygen from the atmosphere, reconverting the suboxide into blue protoxide of copper. In all cases in which it is desirable to obtain absolutely accurate results as to fractions of grains, the above-described method of procedure is confidently recommended.

In addition to this I have adopted the same formula to an approximate method, which will be found very simple and convenient for general use, as follows : First dilute the urine to be tested with an equal volume of water. Next measure accurately one drachm of the test solution into an ordinary test tube and heat to boiling over a spirit lamp. With a minim pipette, or one the point of which is sufficiently large to drop minims, *discharge the diluted urine, drop by drop, into the boiling test solution until the blue color completely disappears*. If one minim of the diluted urine discharges the blue color of the test, the urine contains thirty grains of sugar to the ounce or over. If it requires two drops to discharge the blue color, the urine contains between fifteen and thirty grains to the ounce. If it takes three drops to

eliminate the blue, there are between ten and fifteen grains to the ounce. If it requires four drops, there are between seven and a half and ten grain to the ounce. If five drops, there are between six and seven grains to the ounce. If six drops are required, there are between five and six grains to the ounce. If eight drops are required, there are from three to four grains to the ounce. If it takes fifteen drops, there are between two and three grains to the ounce. If the blue color is not discharged by fifteen drops, the urine contains less than two grains of sugar to the ounce.

In testing, the first five drops of urine should be very slowly added—about five or six seconds elapsing between each two drops, during which time the solution should be kept boiling. After five drops have been added the solution may be kept boiling and the diluted urine added drop by drop continuously but slowly until the blue color completely vanishes or until fifteen minims have been added.

The relations of the test to the number of minims required may be seen at a glance in table below :

One drachm of the test solution, if reduced by

I minim of diluted urine, 30 grains of sugar or over :—

2 minims	„	15 to 30 grains to the ounce ;
3 „	„	10 to 15 „ „
4 „	„	7½ to 10 „ „
5 „	„	6 to 7½ „ „
6 „	„	5 to 6 „ „
8 „	„	4 to 5 „ „
10 „	„	3 to 4 „ „
15 „	„	2 to 3 „ „

By careful attention to details as above indicated in testing, the results may be depended upon as very accurate within the ranges specified. (Charles W. Purdy, M.D.).

DIARRHŒA.

1. (Sp.) Sulphuric Acid is valuable in the treatment of *diarrhœas of relaxation* as :—

R Acid Sulph. Aro. drs. 3, Ext. Hæmatoxyli drs. 3, Tr. Cinnam. oz. $1\frac{1}{2}$, Tr. Opii Camph. oz. $1\frac{1}{2}$, Syrupi q. s. ad fl. ozs. 6. M. s. A tablespoonful as required in a little water.

2. (Sp.) A second remedy still less frequently used than Sulphuric Acid but of great service in the *non-inflammatory diarrhæas* is *Carbolic Acid* or perhaps preferably *Creasote*. This remedy is especially useful in cases of *lientery*, with which there is such *excessive nervous irritability of the bowels that food when taken passes right through*. But it is also very serviceable in *ordinury summer diarrhæas*. A very valuable combination is afforded by the following prescription :—

R Chloroformi fl. oz. $\frac{1}{2}$, Ol. Caryophyli fl. dr. 1, Creasote fl. dr. 1, Tr. Opii fl. oz. $\frac{1}{2}$. M. 20 to 30 drops in water, first given every half hour and then according to circumstances.

In some cases, especially of more *chronic* or *persistent* diarrhæas, where there is *excessive acidity of the intestines*, a combination of Creasote with Chalk or Bicarbonate of Sodium is very useful. Not rarely the addition of the Creasote to an ordinary *astringent cough mixture* affords excellent results. (T. Lauder Brunton, M.D.).

4. Dr. Cimballi of Rome remarks that in serious forms of certain infectious maladies (as, for example, enteric fever, pneumonia, malaria, &c.), an *uncontrollable kind of diarrhæa sometimes occurs*, which, besides being a great annoyance to the patient, always aggravates his condition. The *profuse diarrhæa*, in which the stools amount to twenty or thirty per diem, is usually met with in severe *adynamic forms of infectious diseases*, and is, moreover, a sign of a highly infectious condition. It is impossible to moderate it either by astringents or by the strongest excitants. In many cases, however, he has successfully employed *hypodermic injections of chlorodyne*. Fifteen grains of chlorodyne are injected, and if this is insufficient, the injection can be repeated 5 or 6 hours later, unless it is one of those diarrhæa which is the immediate forerunner of the death agony. As a rule, however, after the first injection of chlorodyne the number of stools rapidly diminishes, and the patient experiences great relief. Two or three injections during the 24 hours suffice to check, or at least to moderate, them.

8. (Sp.) R Naphthol, Bismuth Salicyl., ââ. grs. 40. M. Divide into 10 powders, one of which should be administered about every hour, either in unleavened bread, a little milk, or a spoonful of Todd's potion. Given thus the medicine is easily borne and taken without repugnance. In somewhat profuse diarrhœa in typhoid fever of infants (Delafield).
5. (Sp.) R Bismuth. Salicyl., Naphthol, Calc. Phosph., Cretæ Prep. ââ. grms. 10. M. Divide into 40 capsules or powders. One to be taken with breakfast and dinner. For dilatation of the stomach with manifest tendency to diarrhœa.
6. (Sp.) A 2 per cent. solution of Lactic Acid is a specific in *green diarrhœas of infants and children*. Give a quarter of an hour after feeding and repeat it every half hour. The infant should get not less than 15 to 20 teaspoonfuls in 24 hours. *Lacto-phosphate of lime is similarly beneficial*.
7. (Sp.) R Fol. Matico parts 20, Cart. Granati 120, Aquæ brilliant 1200, Sacchari 2000. The matico and pomegranate are infused with the boiling water, and allowed to stand, well covered for 12 hours. The infusion is then filtered, and the sugar dissolved therein. Dose :—A tablespoonful to a wineglassful, either pure or diluted with water. According to Perret, this syrup is one of the surest and most effective astringents against *acute diarrhœa, cholera morbus and dysentery, &c.*
8. R Tr. Cannab, Ind. mins. 10, Liq. Morphiæ. mins. 5 to 10, Sp. Ammon. Aro. mins. 20, Sp. Chloroformi mins. 20, Aquæ ad. oz. 1. M. To be given every 1, 2 or 3 hours. For summer diarrhœa of adults, with depression, frequent watery stools, vomiting and cramps.

9. **Squibb's Diarrhœa Mixture.**—This mixture was originated by Dr. E. R. Squibb, a number of years ago, and having been found of great service, especially during the last epidemic of cholera (1866), has been a favorite remedy ever since. It is called "Compound Tincture of Opium, or Diarrhœa Mixture," and is composed of 1 fl. oz. each of tincture of opium, tinct. of camphor, and tinct. of capsicum, 3 drachms of chloroform, and 13 drachms of alcohol.

10. **Velpeau's Diarrhœa Mixture.**—R Tr. Opii, Tr. Opii Camph., Tr. Rhei, â â. fl. oz. 1, Tr. Capsici fl. drs. 6, Sp. Menthæ Pip. fl. drs. 10. M.
11. R Resorcini grs. 20, Ol. Ricini (warm) ozs $4\frac{1}{2}$. M. To be taken as a single dose for adults. $7\frac{1}{2}$ grs. for children above 4 years of age. For septic, acute or chronic diarrhœa with foetid stools containing large quantities of micro-organisms. Useful for Asiatic Cholera.
12. (Sp.) *Albumen of egg* has curative properties in diarrhœal affections. Two cases of chronic enteritis and diarrhœa, which having resisted all treatment speedily made complete recovery under the use of egg albumen. The same diet is strongly recommended in *diarrhœa accompanying febrile cachexia and in those of phthisis*. The whites of 8 or 10 eggs are beaten up and made into an emulsion with a pint of water. This is to be taken in divided quantities during the day. More may be given if desired. The insipid taste can be improved with lemon, anise or sugar. In case of colic, a few drops of Tr. Opii may be added.
13. R Saturated solution of common salt and cider given in one drachm doses 3 or 4 times a day is a simple household remedy for chronic diarrhœa. Several cases have been cured.
14. Histerionica Baylahuen in the form of infusion (1 to 150 of water) is the most powerful agent in the treatment of chronic diarrhœas and in the diarrhœa of Tuberculosis.
15. Guarana is found useful in cases of long standing diarrhœa. Dr. J. Frazer reports the case of a soldier, who for 2 years had been troubled with chronic diarrhœa. All the vegetable and mineral astringents were tried, with but only partial and temporary relief. After the administration of Guarana powders twice daily the number of dejections rapidly diminished. Possibly in nervous cases the use of Guarana is worthy of a more extended trial.
16. Mucous diarrhœa of the bowel can be reduced by free anal injections of Carbolic Acid solution; 1 in 50 generally used.
17. R Ergotini gr. 1, Ext. Nucis Vom. gr. $\frac{1}{4}$, Ext. Opii gr. $\frac{1}{2}$. M. ft. pil. One t. i. d. For persistent chronic diarrhœa.

18. R Argenti Nitr. gr. $\frac{1}{2}$, Ext. Opii gr. 1, M. ft. pil. One twice a day before taking food. A very useful remedy in obstinate *chronic diarrhœa*. Checks *pain and vomiting*.

19. R Cupri Sulph. gr. $\frac{1}{4}$, Ext. Opii gr. $\frac{1}{2}$, Ext. Gent. gr. 1. M. ft. pil. One repeated every 4 hours. In obstinate *diarrhœa* in *phthisis*, *typhoid fever*, &c.

20. F. 7. **Cholera**, page 850.

21. Rectal injection of 2 drs. of Glycerine is beneficial in *prolapse of the rectum with diarrhœa*.

22. (Ind.) R Aconiti Heteroph. Rad., Calumbæ Rad., Belæ Cort. Fruct., Punica Gran. Fruct. Cort., â â. grs. 5. M. ft. pulv. One every 4 hours. For *Bilious Diarrhœa*.

23. (Ind.) R Berber. Aristata, Aconit. Heteroph., Conessi bark, Grislea Tom. Flor., â â. grs. 15. ft. pulv. For *Bilious Diarrhœa*.

24. (Ind.) R Mangostina (fruit-rind) parts 5, Poppy seeds 4, Sacchari 6, Pomegranate (fruit-rind) 5, Rose buds 4. M. ft. pulv. Dose : 10 to 20 grs. For chronic diarrhœa in children ; also useful in dysentery.

25. (Ind.) R Holarrhena Antidys. parts 5, Bonduc (kernel) 4, Embelia Ribes 5, Bay salt 4, Mace 3, Syrupi q. s. to make a paste. Dose : 10 to 15 grs. For Diarrhœa in children.

26. F. 6, 10, **Dysentery**.

27. (Ind.) R Mangif. Ind. (kernel) parts 5, Calumba 5, Aconit. Heteroph. 4, Belæ Fruct. 5, Pomegranate (fruit-rind) 5. M. Dose : 20 to 30 grs.

28. Arsenite of Copper 72, Berberis Vulg., Bismuth Subnitr., Blackberry 105, Cascarilla, Cornus Florida, Coto 227, Dita bark 236, Erythrophlœum 251, Eucalyptine 262, Ferri Pernitr., Geranium 303, Gum Rubrum, 267, Guarana 315, Hamamelis 320, Hazeline 322, Helenin 324, Hydrarg. Iodic 333, Hydrarg. Oxid. Fl. 335, Hydrarg. Perchl. 337, Hydrarg. Subchl. 338, Hydrastis Can. 342, Ingluvin 378 to 79, Kola Nut 443, Koroniko 445, Leptandrin 464, Lucumin 761, Mangosteen 295, Menthol, Mullein 499, Myristica 500, Myrtus Com., Papaw 538 to 39, Plantago Ispaghula 572, Potentilla Can., Prunus

Virg., *Punica Gran.* 584, Quin. Carbol., Quin. Salicyl., Quebracho 591, Resorcine 608, *Rhus Aro.* 615, Salol 632, Shepherd's Parse, Sulphur 699, Trumpet Plant, Vaccinium Cras., Viburn. Prun.

Vide Astringents.

Dietary.—In treating the chronic diarrhœas due especially to residence in warm climates Dr. Dujardin-Beaumetz adopts the following method :—He begins by putting the patient on an *exclusively milk diet*. There are some persons in whom *milk provokes diarrhœa* or in whom *milk alone does not suffice to cure the diarrhœa* ; in these cases, without abandoning the milk, it is necessary to *add lime-water*. Then, at the end of a certain time, he gives the *yolks of eggs in milk or chicken-broth*, or *raw eggs* right from the shell, or even *American cream*. By this word he designates the following preparation : The yolks of two eggs beaten with fine sugar, and a few drops of *rum or Spanish or Sicilian wine* ; the eggs are eaten in this state without any water and without being cooked. Then he allows *amylaceous* substances, which he prescribes under the form of pea soups, stews of potatoes, lentils, beans, gruels, and puddings of wheat flour, rice, barley, Indian meal, oatmeal, rice under all its forms, strained panada, racahout,* lactated, farina, and even the sweet revalesciere,† which constitutes a pretty good alimentary mixture. Lastly, you can order the various hard biscuits (some patients do very well for a time on pilot-bread), macaroni, and other of the alimentary pastes of commerce. If all these substances are well supported, he then allows other kinds of food, such as green vegetables thoroughly cooked, stewed carrots, turnips, beets, green peas, Julienne soup ; and it is only when these articles of diet have been found to agree that he permits meats and he always begins with those that are thoroughly cooked, such as stewed chicken, beef *a la mode*, calf's foot jelly, fowls well seasoned, and it is not till the patient is, so to speak, well, that he lets him have underdone meats. This is an order, he says, which is rarely followed, for practitioners are very apt to begin with meat, or to put their patients on raw meat, after first confining them for a day or two to milk diet. This method, excellent in the case

* Contains salep, coca, sweet acorns, potato starch, rice flour, sugar and vanilla.

† A mixture of lentil, flour, Indian meal, pea flour, barley flour, common salt.—(Tr.)

of children, is less applicable to adults. The diarrhoeas having their origin in the stomach and small intestines only are amenable to a dietetic treatment, while those which are due to a morbid state of large intestine, have the influence of diet very much less marked, and here we must rely on *lavages* and other local means.

DIPHTHERIA.

1. Antidiphtheritic Treatment :—The following means give the best therapeutic results in the hands of Dr. Afansay S. Shtcherbakoff, as an *antidiphtheritic treatment* in every case of sore throat, and that it should be applied as early as possible :

- (a.) R Acid Boracici grs. 15, Olei Martis dr. 1 to drs. 8, Glycerini oz. 1. to ozs. 115, M.D.S. To paint every 2 or 3 hours. (b.) *Frequent steam irrigation of the fauces* with lime water. (c.) *Gargling* with the mixture :—R Inf. Herbæ Salviæ 1, Sodii Biboratis oz. 1, Mel. Depurati oz. $\frac{1}{2}$. M.D.S. To use frequently. (d.) *Painting the neck* with Tr. Iodine, with subsequent application of hot compresses. (e.) *Internally* give Antipyrin in full doses, twice daily, and wine. (f.) Hot milk diet.

2. Treatment during the attack consists in administering in alternation and usually at half hour intervals of the following mixtures :—

- (a.) R Tr. Ferri Perchl. mins. 60 to 90, Glycerini oz. 1, Aquæ oz. 1. M.
- (b.) R Pot. Chloratis drs. 4, Glycerini drs. 4, Aquæ Calcis ozs. $2\frac{1}{2}$. M.

(c.) Among the local applications they are various according to different authorities, and are described further on.

(d.) A spray of solution of Acid Carbolic mins. 10 in Aqua Calcis ozs. 4 by atomizer.

(e.) Stimulants as brandy, &c. may be employed in the later stage of protracted cases and in convalescence, but carefully avoided early in the disease. Milk per orem and per rectum is the main reliance in nutrition.

3. Tinct. Rusci Composita is recommended by Schendel in diphtheria, given in half teaspoonful doses every hour during the day, and every two hours during the night. Children under 2 years received a smaller amount. Nothing else was used ; no local application ; diet was carefully regulated. After three or four doses, the general symptoms disappeared ; child roused itself from its apathy, and became lively ; the gray exudation turned yellowish, some falling off and showing a granulating surface below. The tincture was tried in forty-three cases. Twenty-five were of the slighter form, and recovered after three or four days' illness ; of the other eighteen, which were reckoned severe cases, two died, one underwent tracheotomy, and the remaining fifteen got well without complications.

4. (Sp.) **Steam bath treatment of Brunner :—**This may be extemporized when other means are wanting, by covering the bed with a sort of tent of blanket or water-proof and placing under the beds hot bricks on a tray which are from time to time to be sprinkled with water. The tent must be separated from the edges of the bed by about a hand's breadth to allow the steam to ascend. In about 10 minutes after the tent is filled with steam the patient breaks out into a free perspiration and his temperature begins to fall. According to the nature of the case the steam baths are to be continued for from 2 to 12 hours with pauses half-an hour every 2 hours, when a longer pause is made, the linen must be replaced by dry. He has treated the most unfavourable cases successfully in this way. Infants of 7 months to 3 years bear the steam bath wonderfully well. The pulse at first becomes quicker but not weaker ; and the respiration more frequent, but it soon becomes quieter as the air enters the lungs more easily. The nourishment must be liberal, milk, broth, cognac, &c. After 2 to 4 days generally the pharynx begins to clear, but the baths are to be continued, at, of course, increasing intervals for even 14 days.

5. **Treatment by Inoculation.**—Dr. Babchinski was attending a case of *grave diphtheria* occurring in his own son, in which a rapid change for the better occurred coincidentally with the appearance of erysipelas on the face. The fever rapidly fell, the false membrane disappeared, and cure rapidly took place. Dr. Babchinski also states that in several other cases he noted a great

improvement coincident with the appearance of erysipelas, and in one of them the erysipelas occurred on the leg and not on the face. These facts suggested to Dr. Babchinski the idea of *inoculating diphtheria cases with blood taken from patients suffering from erysipelas*, and he states that in several cases in which he employed this procedure, cure resulted. Later on he practised inoculation of other cases of diphtheria with cultures of the microbe of erysipelas in agaragar, and likewise noticed the disappearance of the symptoms of diphtheria. He further adds that when the inoculations were made, all special treatment was suspended, and in no case did the erysipelas present any sufficient gravity to cause uneasiness. He concluded by stating that if his observations and experiences are confirmed, this treatment should rob diphtheria of all its dangers.

6. (a.) R Aquæ Chlorini drs. 5, Sodii Sulphocarbolat. grs. 15, Glycerini ozs. 2, Aquæ ad ozs. 2. M. dr. 1 every 2 hours, for young children.

(b.) R Aquæ Chlorini ozs. 3, Sodii Sulphocarb. grs. 160, Glycerini ozs. 1, Aquæ ad ozs. 6. M. drs. 3 every 2 hours for adults, to be held in the mouth a moment before swallowing:—Locally:—Glycerini Acidi Tannici oz. 1, Glyc. Carbolicus ozs. 2.

Mixed and reduced one-fourth with water, applied every 4 hours. Occasional emetics of Ipecac. Syrup to expel detached fragments (Dr. G. A. Hill).

7. R Ferri Sesquichlor. grs. 15 to 45, Acid. Carbol. grs. 15 to 45, Mel rosæ oz. 1, Aquæ Calcis ozs. 15. M. Throat to be swabbed half hourly with the mixture. For adults, use also, *diluted*, tablespoon doses every 2 hours and as gargle. Tonics and nourishing foods as adjuncts. (Dr. Lolli, Trieste).

8. R Camph. Phenique, Ol. Amygdalæ, â â. equal parts. M. Brush the affected parts every 2 hours during the day and every 3 during the night, gradually increasing the intervals (Dr. Perate).

9. R Iodoform parts 2.5, Bals. Tolu 5.0, Ether 25.0. Mix and filter. Apply this frequently during day.

10. R Acid Tartaric parts 10, Glycerine 15, Aquæ 25. M. Apply every 2 hours.

11. Dr. C. R. Melsheimer used the following method of administering alcohol in a severe case of *Croupous Diphtheria*. 88 per cent. alcohol was maintained at a temperature of 150° in the medicine cup of an atomizer, and was inhaled at a temperature of 120°, reaching the air passages in a strength of about 40 per cent. These inhalations were kept up at intervals of two hours, about fifteen minutes being consumed in each application. The effect of each inhalation was to arrest the intermittent character of the pulse and to render it fuller, to make breathing less difficult, and facilitate expectoration.

12. R Pilocarpine gr. $\frac{1}{2}$, Pepsine gr. 1, Acid Hydrochloric mins. 3, Aquæ Dist. ozs. $2\frac{1}{2}$. M. Give teaspoonfuls hourly.

13. The **Chinese** place great reliance during epidemics of diphtheria on the *internal use of the fresh juice of the limes* and of the fruit itself consumed as *lemonades*, with native spirits, cut in slices, with most successful results.

14. It is reported that the **Negroes of Louisiana** frequently employ *pineapple juice* in the treatment of diphtheria; and this treatment is alleged to be successful.

15. (Sp.) R Papain grs. 120, Hydronaphthol grs. 3, Acid Hydrochloric Dil. mins. 15, Glycerini drs. 4, Aquæ Distil. ad. ozs. 4. M. Spray the throat with it every half our until the temperature falls and then every hour until the patient falls asleep.

16. Acid Hydrofluoric (inhalation), A. Lactic (spray, 1 to 8 of water), A. Sulphurous (spray, 1 to 2), Argenti Nitras (locally, 20 grs. to oz. 1), Antifebrin 51, Baptisin, Beta-naphthol, Calcium Sulphide 133, Chekan 161, Crotalus, *Eucalyptus* 259, Ferri Perchl. 286, *Helenin* 324, *Hydrarg. Cyanide* 494, *Hydrarg. Perchl.* 337, *Hydrarg. Iodic*, *Hydrogen Peroxide* 355, Iodine (Tr.), Iodol, Jaborandi, Manganese Binoxide, Mangifera Ind. 478, *Menthol* 489, Ol. Terebinth. (inhalation), *Papaya* 540, *Pepsin* 547, Permanganate of Potash, *Phytolacca*, Pot. Chloras 574, *Quinoline* 603, Resorcine 609, *Sanitas Fluid* 647, *Sanitas Oil* 643, *Sedum Acre* 654, *Sierra Salvia*, *Sodii Benzoas* 659, *Sodii Fluosilicas* 663, *Sodii Hyposulph.*, *Sodii Sulpho-Carbol*, *Sulpho-Calceine* 700, Sulphur 698, Xanthoxylum.

DYSENTERY.

The Saline Treatment.—1. The principle of this treatment consists in the use of *wet, saline purgatives*, whereby the idiopathic dysentery is converted into symptomatic diarrhœa. The saline acting on the exhalants, unloads the engorged glands, mucus ceases to be secreted and a profuse watery discharge takes place. To accomplish this half an ounce of *Soda Tartarata* or a like quantity of *Sulphate of Magnesia* or *Sulphate of Soda* is sufficient. As soon as the action of the salt is over, give 20 drops of *Sydenham's Tr. of Opium*, or 8 of *Black Drop* or a grain of *powdered opium*. This usually closes the case. If after the effect of anodyne passes off, tormina, tenesmus and the voiding of mucus from the bowels are renewed, then the remedies, as directed above, are to be repeated and in 49 cases out of 50 nothing more is required to be done. But where the vaso-motor nerves are paralysed by blood poison, the mucous and sanguineous discharges, instead of stopping under salines, go on more profusely than before their use; and in rare cases, tormina, tenesmus and discharges become more active; the pulse gets small, frequent, &c., extremities cool, patient in a squesky voice complains of great weakness, and stools bloody and no mucus in them. In this emergency, a grain of *Pulv. Nux Vomica* may be given to a child, and 5 grs. for an adult with the best results. *Strychnine* in these cases is of *no use*.

In some cases patient may be suddenly seized with slight chilliness followed by tormina, tenesmus and great weariness. Pulse small, feeble and frequent; skin cool and *covered with oily kind of sweat and stools*, altogether the *most characteristic sign* of this peculiar form of dysentery, were mucus, having the *exact color of hickory ashes*. In this formidable condition according to Dr. Buckler nothing is required but to give 5 grs. of *Capsicum* every 3 hours. By the time or before 6 of these pills have been taken, a profuse flow of bile will come away, changing grey mucus to bile and improving condition of patient.

There is still another form of disease in which patients have sanguinolent stools containing colouring matter of blood and mucus. They all recovered under 10 grs. of *Bicarbonate of Potassium* given every 4 hours with lime or lemon juice and potato paste for food. In other words they took the usual remedies of purpura hemorrhagica and

scourvy. If the jaundice in these cases be deep, they might also take at bedtime 15 grs. of *Benzoate of Sodium* with 10 grs. of *Ext. Taraxacum*.

2. (Sp.) R Ipecac. gr. 1 to 2, Opii gr. $\frac{1}{2}$, Pil. Hydrarg. gr. 1, Ext. Gent. gr. $\frac{3}{4}$. M. ft. pil. 1 to 2 pills every 3 or 4 hours.

3. Tr. Aconite in one-minim doses given half hourly for 8 or 10 hours and then every hour, is useful in acute dysentery diminishing the frequency of stools, pain, and fever.

4. (Sp.) **Pogson's Compound Bael Powder** :—R Pulv. Belæ Fruct. oz. 1, Pulv. Mangiferæ Ind. Fruct. ozs. 2, Pv. Spogel seeds drs. 4, Pv. Acaciæ Gummi drs. 4, Pv. Zingib. grs. 20. Mix thoroughly and add half its weight of sugar and mix the whole thoroughly and keep in an air tight tin or well corked bottle. Dose : dr. 1. every 4 hours. It is best given with little arrowroot and water. It is very successful in the *dysentery of children which is often so dangerous and troublesome during the rains*.

5. R Holarrhenæ Antidys. Pv. parts 10, Arrow Root Pv. parts 5, Benzoin parts $1\frac{1}{2}$, Magnesiae part $\frac{4}{10}$; boil for 2 or 3 minutes in 500 parts of distilled water, filter through linen and cool. 2 or 3 wineglassfuls of infusion to be taken on an empty stomach one or two hours before meals and the whole to be taken in 24 hours. Very effective in chronic dysentery.

6. R Zinci Sulph., Opii, Ipecac., â â. gr. 1. M. ft. pil. One t. i. d. Very useful in chronic dysentery, and to restrain obstinate diarrhœa.

7. (Sp.) (Ind). **Sir. D. M. Petit, Bart.'s Dysentery Powder**:—(a.) Take 2 ozs. ($4\frac{1}{2}$ tolas) of *Himji Harde* (*Terminalia Chebulia*), rub it with little *ghee* or butter (if required to be used as aperient, with Castol Oil), fry it in a pan on a slow fire until it swells, of *sweet* then reduce it into powder and bottle it up. (b.) Take 2 ozs. ($4\frac{1}{2}$ tolas) *fennel seed*, fry it slightly in a pan, then reduce it into powder and bottle it up. (c.) Take 3 ozs. ($6\frac{3}{4}$ tolas) of *spogel seeds*; wet palm of hand with slight water and rub the seed in it until the pith is separated from the seeds and then bottle up the pith. When required for use take them all in equal proportion, say one tablespoonful of each, mix

them all together with two tablespoonfuls or so (as it suits the taste of the patient) of fine sugar. Dose : 2 to 3 tablespoonfuls, for adults, twice or thrice a day ; 2 to 3 teaspoonfuls, for children, twice or thrice a day.

Sir D. M. Petit, Bart. says : " I have found this powder very effective. It has been used by my family and friends, both Native and European, with success for the last 15 to 20 years ; many European and Native employes in my Mills and Factories also use it, and the European employes send it home for the use of their families. It is very efficacious in *Dysentery* accompanied with the passing of blood and mucus. People suffering from *heat by indulging in hot dishes and alcoholic drinks*, and also from any other sort of *heat in blood* are also cured by this powder. It also cures persons suffering from complaints of *wind and puffiness of stomach, internal swellings* and such other complaints."

8. (Ind.) R Belæ Fruct., Pomegranate (fruit-rind), Mangif. Ind. (unripe), Grisea Tom. (flowers), Helicteres Isora, Terminalia Chebulia, Bombax Mulb. (gum), Aconit. Heteroph., Fennel seeds, Mastiche, Poppy seeds, â â. equal parts. M. ft. pulv. Dose : drs. $1\frac{1}{2}$ with syrup and water, t. i. d.

9. (Ind.) R Helicteres Isora, Bombax Mulb., Aconit. Heteroph., Cannabis Ind., Opii, Grisea Tom., Belæ Fruct. (pulp), Holarhena Antidys., Zingiber, Rhus Succedanea, Myristica, Mace, â â. equal parts. Mix and make a mass with syrup and mucilage and divide into pills 5 grs. each. Give one pill t. i. d.

10. (Ind.) R Sporea Rob., Bombax Mulb., Catechu, Spoghel seeds, â â. grs. 20. M. Give with milk-curd t. i. d. For *chronic diarrhœa and dysentery*.

11. (Ind.) R Mangustina 6, Terminalia Chebulia 2, Fennel seeds 2, Coriander 2, M. ft. pulv. Give grs. 10 with sugar. For *chronic dysentery in children*.

12. F. 24, **Diarrhœa.**

13. Acid Tannic, Alcohol 83, *Arsenite of Copper* 71, Berberis Vulg., Bismuth salts, Calotropis Gig., *Capsicum* 140, Cascarilla, Cornus Florida, Coto, Cusparia, Cetraria, Dita bark 236, Erythrophlœum,

Geranin, Guarana, *Gum Rubrum*, *Hæmatoxylum*, *Hamamelis*, *Hazeline* 322, *Hydrarg. Perchl.* 337, *Holarrhena Antidys.* 328, *Hydrastis*, *Ipecac.* 397, *Koroniko*, *Lini Decoct.*, *Mangustina* 295, *Plantago* *Ispaghula* 572, *Naregamia* 506, *Nutmeg* 500, *Plumbi Acetas*, *Punica Granatum* 584, *Pterocarpus Draco*, *Potentilla Can.*, *Prunus Virg.*, *Ricini Oleum*, *Rhus Aro.* 615, *Rheum*, *Sanitas Fluid* 649, *Simaruba*, *Sodæ Chlorin. Liq.*, *Sumbul*, *Uva Ursi*, *Vaccinium Cras.*, *Viburnum Prunifolium*.

DYSMENORRHŒA.

1. **Dr. McIntosh's Pills** :—R Ext. *Stramonii* gr. $\frac{1}{4}$, *Quin. Sulph.* gr. 1, Ext. *Opii* gr. $\frac{1}{4}$, *Camphoræ* gr. 1, *Ipecac.* $\frac{1}{2}$. M. ft. pil. One, in some cases two, pills are to be taken t. i. d. for five days, beginning 3 days *before* the catamenial discharge, and continuing for 2 days *after* its inception. The same treatment should be adopted every monthly period for from 4 to 8 months, and when there is *no mechanical obstruction* a regular, painless monthly flow will be secured. The administration of such emmenagogues and ferruginous medicines as are proper in anæmic or other conditions of the patient should not be neglected.

2. **Caulocorea** :—An elegant elixir containing the active principles of *Caulophyllum Thal.*, *Viburn. Opulus*, *Viburn. Prunif.*, *Aletris Far.*, *Dioscorea Villosa*, *Mitchellia Repens*, and Spts. *Ætheris Co.* A tablespoonful 3 or 4 times a day or oftener according to circumstances. For *Dysmenorrhœa*. (Also useful for engorgement, inflammation and induration of the uterus, menorrhagia, leucorrhœa, amenorrhœa, prolapsus uteri, hysteria, melancholia, pruritus vulvæ, impaired vitality, vomiting of pregnancy, threatened abortion, uræmic eclempsia).

3. *Ajowan*, *Aletris. Far.*, *Ammon. Acet. Liq.*, *Amyl Valerianate* 751, *Antifebrin*, *Antipyrin*, *Apiol* 64, *Arsenic*, *Atropine* 83, *Borax*, *Bromides*, *Belladonna*, *Campbor*, *Cannabis* 137, *Caulophyllum*, *Cimicifuga*, *Croton-Chloral*, *Damiana*, *Ergot*, *Gelsemium* 300, *Guaiacum*, *Guarana*, *Hydrastine* 349, *Hydrastinine* 351, *Iron*, *Lupulin*, *Nitroglycerine* 510, *Nux Vom.*, *Picrotoxin*, *Piscidia Ery.* 422, *Opium*, *Phosphorus*, *Pulsatilla* 582, *Salix Nigra*, 627, *Scutel-*

Iaria, Sodii Salicylas, Senega, Valerian, *Viburnum Prun.* 724 to 27, Zinc.

DYSPEPSIA.

1. (a.) Among the remedies which are found most satisfactory in the treatment of dyspepsia, especially with a view of preventing the development of *flatulence*, *Chloroform* is the best in the form of chloroform-water as follows :—

R Saturated Chloroform-Water parts 150, Distilled Water parts 120, Mint-Water parts 30. M. A tablespoonful may be taken either immediately before or during a meal.

(b.) When it is desired to employ the so-called *absorbing powders*, the following may be prescribed :—

R Pd. Charcoal drs. 2, Sodii Bicarb. drs. $1\frac{1}{2}$, Calcined Magnesia dr. 1, Pd. Columbo dr. $\frac{1}{2}$. M. ft. pulv. 40. One powder may be taken half an hour or an hour before eating.

(c.) *If an antiseptic action is desired, at the time of eating, give :*

R Beta-naphthol, Bismuth Salicyl., Magnesia, â â. grs. 45. M. ft. pulv. 30, which may be administered as above (Dr. Huchard).

2. The following prescription is an excellent one *in dyspeptic cases attended with belching of wind after meals due to want of tone of the stomach and when a tonic is indicated* :—

R Sodii Bicarb. grs. 5, Tr. Nucis Vom. mins. 5, Tr. Capsici mins. $2\frac{1}{2}$, Cascara Cordial q. s. ad dr. 1. M.

Of this give a teaspoonful either before or after meals, guided by the effects we wish to produce. Alkalies before meals increase the secretion of gastric juice so that in that case where this end is desired it is given before meals. Sometimes however when the patient complains of much acidity of the stomach a teaspoonful after meals seems to produce the best effect.

3. Dr. Fothergill's Antidyspeptic Pill :—R Pulv. Ipecac. gr. $\frac{2}{3}$, Pulv. Pip. Nig. grs. $1\frac{1}{2}$, Strychiune gr. $\frac{1}{20}$, Ext. Gent. gr. 1. M. ft. pil. One pill after meals. It is one of Dr. Fothergill's recipes for indigestion, and has been found very serviceable.

In some forms of Dyspepsia it may be necessary to give a few doses, say one pill three times a day, of Warner's Pil. Anticonstipation. (Vide F. 4 Constipation.)

4. **Fothergill's Antidyspeptic Pill (Improved).**—R Ipecac. gr. 2/3, Pip. Nig. gr. $\frac{1}{4}$, Strychnine gr. 1/60, Ext. Gent. gr. 1, Ol. Caryoph. gtt. 1/20. M. ft. pil. One after meals. Useful in promoting activity of the stomach, liver and intestines. *Acts as a carminative, digestive and hepatic stimulant.*

5. R Ipecac. gr. 1, Strychnine grs. 1/20, Pip. Nig. grs. 2, Pil. Aloes et Myrrh. grs. $1\frac{1}{2}$. M. ft. pil. A dinner pill for the *stimulation of gastric juice.* (An old Fothergill Pill).

6. **Pil. Digestiva** (Wm. R. Warner) :—R Pepsin Conc. gr. 1, Pv. Nuc. Vom. gr. $\frac{1}{4}$, Gingerine gr. 1/16, Sulphur gr. $\frac{1}{8}$. M. ft. pil. One pill either before or after eating. As a *dinner pill*, it is *unequalled*. It is very useful in relieving various forms of dyspepsia and indigestion, and it will afford permanent benefit in *cases of enfeebled digestion, where, the gastric juices are not properly secreted.*

7. **Pil. Digestiva** (Kirby) :—R Pepsin Porci gr. 1, Ext. Rhei, Ext. Aloes Soc., Capsici, â â. gr. $\frac{1}{2}$, Canellæ, Ext. Gent., â â. gr. 1, M. ft. pil. One or two with the principal meals. This has long been a favourite dinner pill with many prescribers for the *more frequent forms of indigestion.* It aids digestion and stimulates the peristaltic action of the bowels.

8. R Pepsin Sacch. grs. $2\frac{1}{2}$, Bism. Subnitr. grs. $2\frac{1}{2}$, Strychniæ gr. 1/60. M. ft. pil. 1 to 2 pills. *A most popular pill for indigestion, especially when no action on the bowels is required.*

9. R Pepsin grs. 60, Bism. Subcarb. grs. 60, Creasoti mins. 10, M. ft. pulv. 30, one in a gelatine capsule. 1 to 2 capsules after meals. *For gastric atony and insufficient gastric secretions caused by dyspepsia.*

10. R Pepsin grs. 2, Ext. Nuc. Vom. gr. $\frac{1}{4}$, Ext. Rhei gr. 1, Ipecac. gr. $\frac{1}{8}$. M. ft. pil. 1 to 2 after meals. *A dinner pill.*

11. **Indigestion Pills** :—R Ext. Taraxaci oz. 1, Hydrast. Can., Myrrh., Rhei, Valerian Rad., Cayenne Pepper, â â. oz. $\frac{1}{2}$. Mix the whole with fresh bullock's gall, simmered in the oven to

one-half, then roll them into the regular sized pills, and add 20 drops of *Oil of Spearmint*. Dose : 2 after dinner and 2 at bed-time. These are good for *weakness of the stomach, headache, depression of spirits, and nervous affections* (J. Hamilton, M. D).

12. R Argenti Oxidi, Ext. Aloes, â â. gr. $\frac{1}{2}$, Ext. Nuc. Vom. gr. $\frac{1}{4}$, Gingerine gr. $\frac{1}{12}$. M. ft. pil. One at dinner daily. A good dinner pill, prescribed in some (chronic) forms of dyspepsia accompanied by oppression and uneasiness after food.

13. **Pil. Prandii** No. 1.—R Aloes Soc., Mastiche, â â. grs. $1\frac{1}{2}$, Ipecac. gr. 1, Ol. Carui min. $\frac{1}{4}$. M. ft. pil. 1 with dinner daily. *A good antidyspeptic pill.*

14. **Pil. Prandii** No. 2.—R Rhei, Ext. Gent., Capsici, â â. gr. 1, Aloes, Saponis, â â. gr. $\frac{1}{2}$. M. ft. pil. 1 or 2 daily.

15. **Pil. Prandii** No. 3.—R Ipecac., Capsici, Ext. Nuc. Vom., â â. gr. $\frac{1}{2}$, Ext. Rhei grs. $1\frac{1}{2}$. M. ft. pil. 1 before dinner. Very useful for *dyspepsia*, promoting digestion and acting mildly on the bowels.

16. **Pil. Prandii** No. 4.—R Aloes gr. 1, Ext. Anthemid. gr. 1, Ext. Gent. grs. 2, Capsici. gr. $\frac{1}{4}$. M. ft. pil.

17. R Ext. Anthemid, Ext. Taraxaci, â â. gr. 1, Pil. Rhei Co. grs. 2, Quin. Sulph. gr. $\frac{1}{8}$. M. ft. pil. 1 with meals.

18. **Pil. Antiseptic** (Wm. R. Warner) :—R Sodii Sulphis, Acid Salicyl., â â. gr. 1, Ext. Nuc. Vom. gr. $\frac{1}{4}$. M. ft. pil. Dose : 1 to 3 pills. It is prescribed with great advantage in cases of *dyspepsia attended with acid stomach and enfeebled digestion, following excessive indulgence in eating or drinking.* (It is useful in Rheumatism).

19. **Pil. Antiseptic Comp.** (Wm. R. Warner) :—R Sodii Sulphis, Acid Salicyl., Pepsin Concent., â â. gr. 1, Ext. Nuc. Vom. gr. $\frac{1}{8}$, Capsici Pv. gr. $\frac{1}{10}$. M. ft. pil. 1 to 3 pills after meals. It is prescribed with great advantage in cases of dyspepsia, indigestion, and malassimilation of food.

20. R Calc. Carb. Precip. grs. $3\frac{1}{2}$, Magnes. Carb. grs. $2\frac{1}{2}$, Sodii Chloridi gr. 1, Excipient q. s. M. ft. tablet. A practically tasteless and *antacid lozenge for acid dyspepsia* and as a preventative for uric acid gravel (Sir Wm. Roberts).

21. **Infantile Dyspepsia** :—In the digestive disturbances occurring in newly-born infants the following elixir proves very efficacious :—

R Papain cg. 50, Acid Lactic grms. 2, Tr. Vanillæ q. s., Syrupi grms. 50, Aquæ grms. 150. M. Give a teaspoonful after each allowance of milk, whether maternal or otherwise (Toussaint).

22. **Hop Bitters** :—R Tr. of Hops drs. 4, Tr. Buchu, Tr. Senegæ, â â. drs. 3, Podophyllin gr. 1 (dissolved in Sp. Rect. drs. 4), Tr. Cocci mins. 20, Aquæ Distil. ad. ozs. 16. One to two wine-glassfuls before dinner.

23. **Vin. Pepsin**.—R Pepsin Pur. grs. 40, Acid Hydrochl. Fort. dr. 1, Glycerini ozs. 2, Vin. Xericum q. s. ad ozs. 20. First dissolve pepsin in the acid and then mix with sherry and keep for a few days agitating frequently, after which add glycerine and filter.

24. **Lactopeptine** :—Formula :—Sugar of Milk ozs. 40, Pepsin (pure) ozs. 8, Pancreatine (pure) ozs. 6, Veg. Ptyalin or Diastase drs. 4, Acid Lactic fl. drs. 5, Acid Hydrochloric fl. drs. 5. Dose : 10 to 15 grs. after meals, for adults. For children, 5 to 8 grs. It precisely represents in composition the natural digestive juices of the Stomach, Pancreas, and Salivary Glands, and will, therefore, readily dissolve all foods necessary to the recuperation of the human organism. It is a specific in all disorders of the stomach and digestive tract arising from dyspeptic causes. It is indicated in severe cases of Indigestion, and in Cholera Infantum, Malnutrition, and vomiting in Pregnancy.

24. **The Mechanical Treatment of Chronic Dyspepsia** :—Dr. Cséri has lately been carrying out this plan with favourable results. It consists mainly in suitable dieting and in a peculiar kind of *massage*. The author practises the latter when the stomach is full, about two or three hours after dinner. Changing frequently his mode of proceeding, he strokes and kneads the stomach from the *fundus* towards the *pylorus*, first gently and superficially, then more energetically, for ten or fifteen minutes, the patient lying on his back with his legs drawn up and breathing with his mouth open. During the last few minutes the massage is

extended to the bowels. The manipulation is neither painful nor disagreeable, but is very well borne. The patients experience after the massage a feeling of warmth and comfort ; occasionally they feel sleepy, but the fulness and feeling of weight have generally disappeared. After a few days they are in better spirits, all fear of coming cardialgia being entirely banished from their minds. The immediate result of this kind of massage is that the stomach is freed from the many gases which are continually being generated there, and this alone produces a great feeling of relief. The hour for the massage is chosen because it is the time when part of the already chymified ingesta begins to enter the duodenum from the healthy stomach. In dyspepsia the stomach is generally sluggish, and either the quantity or quality of its secretion is impaired, and consequently chymification or peristaltic motion, or both, are insufficient. It is also known that mechanical stimulation of the stomach may increase its secretion, and the author considers himself justified in concluding that massage increases in this way the process of digestion. He also finds that at the same time, either through neuro-muscular or true pathological change, muscular power increases, and the massage, no doubt in a purely mechanical way, helps to advance the stomachic contents into the duodenum. The rapid cure of pains and general malaise after eating in cases of nervous dyspepsia is explained by the fact that the manipulation dilates the pylorus, so that after a few days it offers no impediment to the food passing through it.

25. Acid Lactic, Alcohol 33, Erythœa Chiliensis infusion (1 to 20), Euonymin et Pepsin 270, Hydrag. Ox. Fl. 335, Hydrastis 342, Hydrogen Peroxide, Ichthyol, Ingluvin, Inulin, Iodine Trichloride, Leptandrin, *Pancreatin* 533, *Papain*, 539, Pot. Bichromas 513, Pycnanthemum Lan., Saccharin 623, Siegesbeckia, Sodii Sulphcarbolas, Sodii Taurocholas, Vernonia Anthel., Xanthoxylum.

Vide Stomachic Tonics.

Dietary.—In cases of atonic dyspepsia the food to be prescribed must be of an easily digestible nature. The assimilation of that food, too, which cannot be performed by nature, must be secured by giving prepared, partially-digested food, or by prescribing

ing along with the food such digestive stimulants, or adjuvants as will assist its absorption. The diet advisable in such cases is a light one, which will not tax the stomach. I do not say restrict the diet to fluids wholly, for although undigested solid portions are irritating to the tender stomach, yet by the treatment I advocate I do not anticipate that any portions will remain undigested there. Such articles of diet as cheese, potatoes, cabbage, etc., must be prohibited, and regular meals made of such items as chicken and mutton, white fish, soft-boiled eggs, stale bread or crisp toast, milk in quantity, rice, semolina farola, arrowroot and other farinaceous foods, meat juices, beef tea or Liebeg's extract, and ripe fruits. Vegetables should not be prohibited, as a certain amount of vegetable food is necessary. But they should be partaken of sparingly, as they are apt to increase the flatulence, which is frequently a troublesome symptom. Lime or lemon-juice can be substituted in cases where vegetables disagree. The food should be given regularly and not in too great quantity, and should be well masticated previous to swallowing. (R. T. Halliday, M.B., C.M.).

Vide Dietary under Gastric Diseases.

DYSPHAGIA.

Cocaine 189.

DYSPNŒA (CARDIAC AND PULMONARY.)

1. F. 5. Asthma.

2. Amyl Valer. 751, Aspidospermine 591, Chloroform 169, para 12, Convallaria 220 to 222, Ethyl Iodide 256, Ethyl Nitris 257, Euphorbia Pilulif. 276, Grindelia Rob. 309 to 310, Jaborandi 402, Pot. Iodide 381, Pyridine 586, Quebracho 590 to 592, Strophanthus 689, Stigmata Maidis 684.

DYSURIA.

1. F. 5. Enuresis.

2. Gelsemium 300, Plantago Ispaghula 572, Stigmata Maidis 680.

ECLAMPSIA.

Eclampsia of Pregnancy and Parturition.

1. **Prophylactic treatment** :—The patient must *refrain from work*, be put on a *milk diet*, with or without *Vichy Water* and *fruits*, with a *minimum of animal food*. *Saline diuretics*, as *Acid Tartarate of Potash* or *Acetate of Potash* may be given and *Tinct. Ferri Perchl.* in full doses *t. i. d.*, a full dose of *Glauber Salts* in the morning to promote free elimination by the bowels ; also it may be expedient to give at bedtime a full dose of *Jaborandi* to produce profuse sweating or $\frac{1}{8}$ gr. of *Pilocarpine* *hypodermically* or even resort to the *wet pack* or *hot bath*. If in spite of these efforts to relieve the engorged kidneys and protect the irritated nerve centres, the patient becomes worse and *convulsions* seem *imminent*, *premature labour* should be *induced* by *rupturing the membranes* or by the use of *Barne's water bags* (Dr. Charpentier.)

Chloral acts as a *prophylactic* if given before confinement, when there is reason to apprehend convulsions.

2. When called to treat a woman **already in convulsions**, if labour has not already begun, it must be expedited by artificial means under *Chloroform*. If labour has considerably advanced, and the os is dilated or dilatable, the patient must be immediately delivered by the forceps or version. A 10-grain *calomel* powder may be placed on the patient's tongue, and if the vascular tension seems high, 16 ozs. of *blood* may be taken from the arm. *Chloroform* should be administered to complete *anæsthesia*. As *adjuvant* to *Chloroform*, a full dose of *Chloral* may be given by *mouth* or by *rectum*. Possibly in *obstinate cases* a full *injection of morphine* may be advisable. This treatment will be more effectual and will save more patients than any other therapeutic method (Dr. Charpentier).

Inhalations of *Chloroform* or *Ether* pushed to their full physiological effects are specific for *puerperal eclampsia*. They have been employed for many years and in large number of cases with success and without any death. The majority prefer *Chloroform* to *Ether*.

Then as regards the dose of Chloral as an adjuvant to Chloroform, first give 60 grs., if this is not retained, or only partially, give a second dose. Whether the attacks continue or not, do nothing for a few hours, say 5 or 6, and it is only at the end of this, that another dose of 60 grs. be given. Where it cannot be taken by the mouth, give by enema composed of yolk of an egg, 3 ozs. of milk, 60 grs. of Chloral and 10 drops of Laudanum.

Four cases have been successfully treated when the patients were comatose and deglutition impossible as follows : 45 to 60 grs. of Chloral Hydrate in solution (1 to 30 or 40 of water being the best proportion) were given by means of a stomach tube at a dose ; so that in 12 hours, $2\frac{1}{2}$ drs. of Chloral may be given and the amount pushed to $4\frac{1}{2}$ drs. in 24 hours.

3. It is possible to *avert convulsions of pregnant women by treating the first symptoms of albuminuria*, and thereby averting the threatened danger to the life of mother and child. I ask my patients to report any *œdema of the legs with scanty and thick dark urine and shortness of breath*, and If I find *albumen* present I give *Nitroglycerine*, with a tonic, and the symptoms disappear, and there is soon a copious flow of urine. A woman stated that she had never had a live child, but had three times been delivered of a dead child between the 7th and 8th months and had once at least had convulsions. I found her legs very much swollen and œdematous. She was anæmic, and her face was puffy, and her urine scanty, thick and nearly solid on boiling. I gave her *Nitroglycerine and Iron*, and the swelling of the legs, grandually disappeared ; the urine became free from albumen and copious, and her health improved. She went on to full time, and was delivered instrumentally of a very large child.

Mrs. M. sent for me in great hurry. I found her in convulsions and unconscious. She was between 6 and 7 months gone. I gave Chloroform and delivered her, but the convulsions continued. The urine drawn off was solid with albumen. I then gave *Nitroglycerine and Bromide of Ammonium*, and subsequently *Nitroglycerine and Iron*, and she recovered. About 3 months afterwards she again became pregnant. Soon after she quickened she consulted

me for a sickness and headache. I found the urine contained albumen, and the headache and sickness was plainly due to uræmia. I gave her Nitro-glycerine and Bromide, and then Iron and she went on well to nearly 8 months, when she was confined before I could get to her of a fine boy. She again became pregnant, and the uræmic symptoms again appeared, but treatment was resorted to as before, and with the same good results. These two cases are only selected from many of a similar character. (C. H. Watts Parkinson M.R., C.S.).

4. There is however a class of puerperal eclampsia in which there is *no interference with the kidney function* and where toxæmia has not been demonstrated to occur; but where on the other hand (and not during pregnancy alone) a history of nervous irritability, peculiarity of temper, vertigo, headache, neurosis are obtained. It is in these cases more especially that *Caffeine* when given at proper stage is of marked value. Hypodermic injection of 3 grs. of *Citrate of Caffeine* with $2\frac{1}{2}$ grs. of *Sodii Salicylas* in 10 mins. of water, and subsequently given by mouth.

5. Cannabis 139, Pilocarpine 408, Solanum Carolinense 669, Veratrum Viride 719.

Vide **Convulsions.**

ECTHYMA.

1. R Glycerini fl. oz. 1, Liq. Plumbi Subacet. fl. drs. 2, Sp. Rectif. fl. drs. 4, Aq. Rosæ ad fl. ozs. 8. M.
2. Acid Chrysophanic, Iodoform. Pot. Chloras 575.

ECZEMA.

1. **Eczema in Infants and Children** :—Eczema intertrigo about the genital and anal region is especially frequent in fat children, and is usually associated with digestive disturbances demanding the regulation of the diet before anything else. Locally the most grateful and healing application is composed of equal parts of a five-per-cent. solution of *boric acid* and *lead-water* applied on pieces of muslin or linen, and changed every time the diapers are changed. The acute inflammation usually ceases at the end of the

second day, when a five-per-cent. *ointment of boric acid in vaseline* should be substituted for the lotion, painted on with a brush and then covered with the ointment spread on a cloth. If there is a good deal of moisture present, the parts should be powdered with talc or equal parts of *talc and zinc oxide*, and covered with cotton powdered full of the powder. The diapers should be changed frequently, and the old powder, if wet and caked, removed before new powder is applied. In fat children with eczema of the head the supply of fat in the food must be lessened, the frequency of nursing being reduced. If constipation is present, small doses of calomel may be given, or resort had to the soap suppository. Locally all crusts are to be removed by soaking in oil, this being frequently renewed to prevent its becoming rancid, and removed with soap and water. If much exudation is present, *Lassar's paste*, with *boric acid* five per cent., or the *benzoated oxide of zinc* ointment may be used. If there is not much exudation, a simple five to ten per cent. boric-acid ointment will do well. If the *squamous stage presents*, then an ointment of fifteen grains of *white precipitate*, sixty-five grains of *balsam of Peru*, and an ounce of *zinc-oxide ointment* will soon complete the cure. The skull-cap of linen is a necessary adjunct to this treatment. It is well to bind up the hands to prevent scratching. In general eczemas of strumous children either phosphorus in cod-liver oil or arsenic must be administered. In all cases of general eczema the body must be smeared with vaseline, powdered thickly, and covered with a fine linen shirt. The procedure is to be repeated four or five times daily. Upon the limbs a bandage may be substituted for the shirt. Water must be kept away from all eczematous skins. (Saalfeld).

2. Dr. Lassar recommends the following 2 prescriptions in *Eczema of the scalp in children* :—(a.) R Acid Salicyl. part 1, Tr. Benzoin 2, Vaseline 50, M. To be used 2 or 3 times a day. (b.) In eczema of the non-hairy portions he uses : R Acid Salicyl. parts 2, Amyli 25, Zinc Oxide 10, Vaseline 50. M.

3. R Acid Salicyl. grms. 2, Zinc Oxide grms. 25, Starch grms 25, Vaseline grms. 50, M. In chronic eczema of infants and eczema of face.

4. R Resorcine, Zinc Oxide, â â. dr. $\frac{1}{2}$, Vaseline drs. 5. M. Specific for chronic eczema in infants and children.

5. **seborrhœic Eczema.**—The parasite causing this kind of eczema is the same which in the first instance produces Pityriasis Capitis. Those persons who suffer from Seborrhœic Eczema of the head, including those affected with Pityriasis Capitis, are apt to suffer from the same kind of Eczema on other parts of the skin. Dr. Unna has repeatedly pointed out that we possess a series of valuable remedies for the treatment of Seborrhœic Eczema in all its forms,—viz., *Sulphur*, *Resorcin*, *Chrysarobin* and *Pyrogallol*. Of these remedies Resorcine, is the best, as being the least likely to produce local or general ill effects. It may also be used in an alcoholic or watery solution, or in the form of ointment, paste, soap, or powder. Dr. Unna's favorite formula is a solution of three drachms of finely-powdered *resorcin* with an equal quantity of *glycerin* in six ounces of *spirit of wine*, diluted with four times the quantity of water or camomile tea. A thin layer of cotton-wool well moistened with the solution is applied, covered with some water-proof material, and fastened by a bandage. These applications are particularly useful when the treatment is prolonged, or when it is carried out by night. They are, of course, *impossible in general eczema of adults*, but not in that of infants. Dr. Unna describes an especially important effect following the application of resorcin,—viz., a swelling of the epidermis, by which all painful fissures are healed, in a single night. In order to insure healing, he advises that the skin should be anointed after the removal of the bandage, and that washing with soap should be avoided. A few people suffer from a resorcin idiosyncrasy which necessitates the immediate cessation of this treatment, and the application of powder to the affected parts. This idiosyncrasy is, however, very rare, as he has only met with it *ten times in five years' observation*, during which time he has seen *two thousand cases*. He remarks that his treatment is not adapted to those cases of long-existing eczema, in which strongly-infiltrated or thickly-indurated patches occur.

6. (a.) R Bismuth Subnitr. drs. 2, Zinci Oxidi dr. $\frac{1}{2}$, Acid Carbol. mins. 20, Glycerini drs. $1\frac{1}{2}$, Vaseline das. 6. M. A cooling

application to the irritable skin in acute eczema. If the patient cannot use this ointment during the day when business has to be attended to, the following powder may be dusted over the eruptions :—

(b.) R Cimolite, Bismuth Oxide, Zinc Oxide, â â. partes equales. M.

7. R Pumiline, Zinc. Oleat., Vaseline, â â. dr. 1, Lanoline oz. 1. M.
A soothing and healing application in obstinate cases of eczema and excoriated surfaces.

8. Eczema of the Anus and Genital Region.—(a.)

Relieve the constipation. When there is congestion of the hemorrhoidal vessels *Sulphur Precip. and Pot. Bitartrate*, to be given. Next to imperfect bowel secretion is deficient kidney secretion for which give the following :—

R Pot. Acetatis oz. 1, Tr. Nuc. Vom. drs. 2, Inf. Quassiæ ozs. 4.
M. A teaspoonful after meals in water.

(b.) For the relief of itching apply :—R Ung. Picis oz. 1, Zinc. Oxide drs. 2, Ung. Aquæ Rosæ ozs. 3. Or, R Bismuth Subnitr. drs. 2, Acid Hydrocyan. Dil. dr. 1, Emuls. Amygdal. ozs. 4. M. ft. lotio.

(c.) In cases of **eczema of the genitalia** in which glyceroles and unguents have failed, the following formula has been successful :—

R Pot. Chloratis grms. 30, Vin. Opii grms. 50, Aquæ puræ quart 1. M. Applied to the parts by linen compresses and covered with oiled silk. If there is much inflammation, precede this with warm hipbaths and cataplasms sprinkled with Carbonate of Lime.

9. R Acid Carbol. dr. $\frac{1}{2}$, Zinc oxide dr. 1, Ol. Chaulmoogra drs. 4.
M. For *subacute eczema*.

10. R Acid Salicyl., Bals. Peru, â â. dr. $\frac{1}{2}$, Lanolin drs. 4. M. For *weeping eczema*.

11. R Acid Salicyl. dr. $\frac{1}{2}$, Barax drs. $1\frac{1}{2}$, Glycerine drs. 2, Vaseline oz. 1. M. In the 3rd, stage of acute eczema, mild form of psoriasis and scaly skin affections.

12. R Liq. Carbonis Deterg. drs. 4, Acidi Hydrocyan. Dil. dr. 1, Glycerini drs. 2, Aquæ ad ozs. 10. M. In *eczema and pruritus*.

13. R Acid Pyrogallic grs. 47, Collodion Flexile oz. 1, Ol. Ricini mins. 10. M. The best application for chronic eczema and psoriasis. Will remain adherant on the skin for 3 or 4 days.

14. An ointment of Salicylic Acid and Vaseline will cure *Carbolic Eczema*.

15. F. 10. **Acne.**

16. R Pil. Hydrarg. Subchl. Co., Pil. Rhei Co., â â. grs. $2\frac{1}{2}$. M. ft. pil. This pill was prescribed by the late Mr. J. Startin in *eczema* and other forms of chronic skin disease. Mr. J. Saddler says that he has used it most successfully, and that it may be continued for several weeks, and never produces salivation.

17. R Acid. Arseniosi grs. 5, P. Acaciæ grs. 30, P. Cinnam. Co. grs. 30, Ext. Jalapæ grs. 120. M. ft. mass, et divide in pilulæ 100. One t. i. d. In chronic *eczema* and psoriasis. Extensively used in India in the treatment of lepra and other scaly diseases of the skin (Kirby).

18. F. **Dermatology.**

19. Acid Boracie 7, A. Camphoric 8, A. Chrysophanic 11, A. Gynocardic 160, A. Phosphoric 559, A. Picric 16, Anthrarobin, Antifebrin 51, Aristol, Berberis Aquif. 91, Betanaphthal 99, Cimolite 433, Cocaine 191, Eucalyptine 265, Ferri Perchl. 286, Glyc. Plumbi Subacet. 306, Gurjun Balsam, Hamamelis, Hazeline 322, Hydrastis 350, Hydrocotyle As., Ichthyol 366, Iodide of Barium 383, Iodoform 390, Jaborandi 403, Kieselgiibr 439, Lanolin 455, Naphthalin 503, Oleatum Aluminii 515, Ol. Cadmii, Ol. Hydrarg. 517, Ol. Nickel, Ol. Plumbi 517, Ol. Stanni, Ol. Zinci 518, Oleum Betula Alba, Oleum Cadini 520, Ol. Deelinæ 520, Ol. Gaultheriæ, Ol. Sanitas 644, Papaya 542, Pix Liquida 570, Pot Bichromas 573, Pot. Chloras 575, Resorcine 610, Rhus Toxic., Salicine 21, Thiol 738, Thymol 710, Ustilago Maidis, Vinolia, Viola Tricolor 731.

Vide Psoriasis.

ELEPHANTIASIS.

1. *Electricity* in the form of the continuous and interrupted currents and with *electrolysis*, with *massage* and *pressure* by means of

the rubber bandages, have given satisfactory results. 400 cases were under observation and treatment by this method, for many years. The remedy must be employed for a long time and perseveringly.

2. The following Indian remedies are effective in reducing, though not radically curing, elephantoid swellings :—

(a.) R Nigellæ Sat. parts 2, Acori Calami, Piper. Nig., Zingiber, â â. part 1. Powder them and mix with fresh juice of *Datura Alba*, and apply on *elephantiasis scroti*.

(b.) R Bole Armenean, Barringtoniæ Acut., â â. parts 4, Acori Calami parts 2, Seminæ Nuc. Vom., Piper. Nig., â â. part 1. Powder them and form into a paste with sufficient quantity of water. Apply on *elephantiasis of the leg and scrotum*.

(c.) Powdered root-bark of *Calotropis Gigantea* made into a paste with water and applied on elephantiasis of the legs and scrotum.

(d.) Root of *Moringa Pterygosperma* made into a paste with water and applied cautiously, being a powerful rubefacient, over the elephantiasis of the legs.

3. Other external and internal remedies are : Acid Carbolic (I.) Ammon. Chloride (I. and E.), Arsenic (I.), *Calc. Sulphide* 133, *Colocynth* (I.), *Ferri Arsenias*, *Hydrocotyle Asiatica* 353, *Hydrarg. Perchl.* 337,

EMESIS (VOMITING.)

Vomiting of Pregnancy.

1. The so-called uncontrollable vomiting of pregnancy may arise from various causes, and three organs or apparatuses concur in its production. These organs are the uterus, the point of departure of the troubles which involve the other organs ; the nervous system, both spinal and ganglionic, which by means of its reflex power transmits to distance the troubles which start from the uterus ; and the stomach, which suffers from the action of the uterine stimulus. In order to treat this form of vomiting with a success which shall be almost uniformly good, one must resort to a complex treatment which is addressed simultaneously to the three sources of the disease. There are three fundamental indications to be satisfied :

(a.) The morbid or abnormal excitement of the uterus must be allayed by remedying the different pathological conditions which produce it. Various means may be used for this purpose, including the use of belladonna, cocaine, morphine, vaginal injections or appropriate topical applications, the Gariel pessary, elevation of the pelvis with inclination of the body, cauterizations, and artificial dilatation of the cervix.

(b.) The activity of the reflex transmissions must be diminished or suppressed by the use of bromo-chloral, by chilling of the spinal region, by moral influences, etc.

(c.) The intolerance of the stomach must be treated by calming its erethism and relieving its different disorders by careful diet, by abstinence from all acid drinks, by the use of alkaline water with small quantities of ice, by a flying blister at the epigastrium, and by suitable laxatives. The stomach must be relieved from work as far as possible, and medicaments must be introduced *per rectum* or *subcutaneously* as far as possible. (Guéniot.)

2. **Menthol in the Hyperemesis of Pregnancy.**—Dr. Gottschalk recently described a case where, in a woman aged 26, who had been pregnant three times, uncontrollable vomiting set in during the second month of her fourth pregnancy. Neither Cocaine nor Copeman's treatment (dilatation of the os and cervix uteri) availed, and the sickness continued until abortion was induced. The patient became pregnant for the fifth time, and the vomiting returned, hæmatemesis taking place. A draught consisting of menthol 1 part, rectified spirits 20 parts, and distilled water 150 parts, was prescribed, and a tablespoonful given every hour. The vomiting ceased after the third dose, and pregnancy proceeded to term without any further complication. A second case was also successfully treated with menthol.

3. In a case of obstinate nausea in a pregnant woman, when all the ordinary remedies for this distressing symptom had failed, prompt and permanent relief was obtained by the use of a single vaginal suppository, composed of two grs. of Cocaine, half a grain of Ext. Belladonnæ, and Butter of Cocoa in sufficient quantity. (E. Warren-Bey, M.D., C.M., LL.D.). *Vide* page 192, para 13.

4. **Ether applied directly to the skin of epigastrium** cured an obstinate case of vomiting during pregnancy after every remedy had been tried in vain. The effect was surprising. The patient inspired deeply several times and ceased vomiting at once.

5. **Pop-Corn.**—Quickly roasted grain of a species of Indian corn popped in a wire popper (and should be white and light), and sprinkled with a salt and eaten freely stops vomiting after all other remedies have failed. It acts like a charm. Even after the failure of the bathing of Cervix with Nitrate of Silver solution it has succeeded.

6. **Bathing the cervix uteri with a solution of Nitrate of Silver** (10 grs. to 1 oz. of water) is an original and effectual remedy for obstinate cases. This application has been recently superseded by that of Cocaine (q. v. at page 192).

7. **Blistering over the 4th and 5th lumbar vertebræ**, puts an end to the reflex vomiting and neuralgic toothache incidental to the period of gestation.

8. Acid Hydrobromic Dil., Calcii Chloride 130, Cærii Oxalas, C. Nitras, C. Valerianas, Cocaine 192, Glycerine 303, Ingluvin 377, Iodine 383, Ipecac. 397, Iridin 399, Koumiss 447, Nux Vom. 512, Pancreatin 533, Paraldehyde 546, Viburnum Prunifolium 723.

SEA SICKNESS.

1. (a). The first symptom of sea sickness is *excessive glandular action*, the salivary glands being those soonest affected. Efferent impulses from the *secretion centre* in the *medulla* descend by the *Chorda Tympani*, and excite this salivary secretion. Now we know that *Atropine* paralyses this secretion centre in the medulla and if given early in sea sickness we find it cures the affection. A drop dose of Liq. *Atropiæ Sulph.* B. P. in teaspoonful of water should be given every hour till the physiological effect of the drug—great dryness of the throat—is produced; or it may be given hypodermically instead of by the mouth. The sedative action of Atropine on the medulla renders altered sensory impressions inoperative in producing sea sickness. It should be given early in the affection, as when the more advanced or secondary stage is reached, its effect is not so

marked though still beneficial. In some cases *sugar is found in the urine, due probably to the irritation of the diabetic centre in the medulla.* 4 mins. of Fowler's solution t. i. d. is the best treatment in such cases. When called in after the affection has lasted 2 or 3 days, the medical man generally finds the patient greatly depressed, with a furred tongue, bowels obstinately constipated, pulse quick and weak. The best treatment is to move the bowels well by enemata; the Atropine given as above, and patient's strength supported by drachm doses of a mixture composed of equal parts of Brandy and iced water. The dryness of the throat caused by Atropine will be best relieved by small quantities of ice and iced lemonade. Valentine's meat juice or cold beef tea "a little and often" will sufficiently nourish the patient till more solid food is relished.

(b.) Bromides like Atropine have a sedative effect on the brain, but to prevent sea sickness must be given in sufficient quantities to produce bromisation. Bromide of Sodium is preferable and should be taken from 1 to 3 days before sailing and kept up during the voyage. As bromism is a serious condition and one liable to affect a patient's reason and general health most injuriously, the bromides should be used with great caution and only when prescribed, and their action watched by a medical man. *Chloral Hydrate* is useful in some cases and its curative action seems to depend on its rendering the brain anæmic, &c. (T. T. Reynolds, M.D.).

2. *Chloral Hydrate* grs. 45 may be taken before the voyage is begun. Sleep should be induced before the ship starts. If the patient awakes more Chloral is advised so that sleep can be kept up even for 24 or 36 hours.

3. If a patient is seen early before emesis has set in Dr. Donnelan begins treatment by an emetic of warm water, or better still sea water. If there is constipation he gives an enema. Then the patient is placed in a recumbent posture with the head low and the following draught is given every 2 hours, with plenty of ice to suck :

R Liq. Bismuthi dr. 1, Sp. Ammon. Aro. mins. 30, Chloroform, Vin. Ipecac., â â. min. 1, Aquæ ad oz. 1. M.

It is desirable for the patient to take liquids or food in any quantity for the first 24 hours and if there be signs of exhaustion, then beef-tea or beef jelly to be taken with a little dry champagne frequently.

4. In the few cases of sea sickness which Surgeon C. W. Hamilton, R. N., has had to deal with of late, he has found the internal administration of *Kola Nut* a most successful remedy. Half to one drachm of the seed chewed slowly was followed, in about forty minutes, by complete cessation of the various symptoms of *mal de mer*, the depression, vomiting, and giddiness disappeared; the heart's action was regulated, &c.

5. R Capsici oz. 1, Sodii Chloridi ozs. 2, Vinegar ozs. 40. M. A tablespoonful to be given for nausea, vomiting and sea sickness.

6. A firm belt with a pad on the epigastrium will sometimes act as a preventative of sea sickness.

7. R Ext. Cannab. Ind. gr. $\frac{1}{2}$, Sodii Bromide grs. 20, Mucil. Acaciæ drs. 4, Aquæ Camph. drs. 4. M. For headache due to sea sickness.

8. Amyl Nitrite., *Antipyrin* 60, *Cocaine* 193, *Ingluvin* 377-8, Jame's Malmerfine, Nitro-Glycerine 509, Resorcine 609, Vin. Coca.

OTHER FORMS OF VOMITING.

1. Application of Ice to lower part of spine in a case of typhoid fever, instantly stopped vomiting, after every remedy and even pellets of ice were rejected by the stomach.

2. Hot Water 736, Ipecac. 397, *Ingluvin* 387, Lactopeptine, Pancreatine 533, Papain 538, Pepsin, Resorcine 608.

Vide Antemetics.

Dietetic Treatment of Emesis.

(1.) A glass of beer taken twice daily wards off the attacks, as has been observed in some severe cases of excessive vomiting of pregnancy.

Often dry biscuits and little lemon juice and small quantities of champagne given frequently shall be retained, when no other food will be. (2.) Koumiss 447. (3.) Pancreatine 533.

EMPHYSEMA.

Convallaria 221, Creasote 229, Eucalyptine 261, *Euphorbia Pilulif.* 278-9, *Grindelia Rob.* 309, Jaborandi 402, Nux Vom. 512, Pyridine 586, *Quebracho* 590, Terebene 702.

ENTERITIS.

Antimony 56, F. 11. **Diarrhœa**, Mist. Ol. Ricini 863, Salol 632.

ENURESIS (INCONTINENCE OF URINE.)

1. Dr. Van Tienhoven, of the Hague, suggests that in children suffering from incontinence of urine, though the bladder acts normally through the day, it misbehaves at night. He believes that the musc. sphincter is not strong enough to keep back the urine which collects in the bladder in the early hours of the night and permits it to find its way into the prostatic portion of the urethra. The musc. detrusor is thus reflexly stimulated and the bladder is emptied. In order to prevent the urine from running into the urethra in this way the children were made to sleep with the pelvis elevated. In this position the bladder is capable of holding a certain amount of urine before the liquid reaches the level of the urethral opening. The foot of the bed must be elevated so that the bed forms an angle of forty-five degrees with the horizontal. The children should be sent to bed with empty bladders, and should not take any liquid just before retiring. They sleep well in this position and do not complain. Fourteen cases were treated by this simple method only, and were cured in a short time.

2. (Sp.) R Atropinæ Sulph. gr. 1, Aquæ oz. 1. M. one drop given for each year of the child's age. 30 cases of incontinence of urine occurring in children from 3 to 15 years of age, have been cured by this. It was given at 4 and 7 o'clock in the evening (Dr. Watson).

3. R Zinci Sulph. gr. 1, Ext. Bellad. gr. $\frac{1}{4}$. M. ft. gran. For a child above 3 years of age, one every 6 hours ; every other day

the remedy may be increased by an additional dose, watching the action of belladonna. For incontinence of urine, (pertussis and nocturnal emissions).

4. R Tr. Ergotæ mins. 10, Tr. Ferri Perchl., Sp. Chlorof., â â. mins. 5, Infus. Quassiæ ad oz. 1. Ter die sumendum. (N. Brenchley).
5. R Ergotini gr. $1\frac{1}{2}$, Ext. Bellad. grs. $\frac{1}{4}$. M. ft. pil. One t. i. d. For incontinence of urine and spermatorrhœa, when not due simply to plethora.
6. R Pil. Phosphori Mol. grs. $1\frac{1}{2}$, Sol. Cantharidis min. 1, Pv. Nuc. Vom. gr. 1. M. ft. pil. (= Tr. Cantharidis mins. 5). 1 to 2 pills twice or thrice a day with food. Useful in atony or paralysis of the bladder, producing incontinence or retention of urine and in the dysuria of old men.
7. *Antipyrin* 60, *Bellad.* 81, *Gelsemium* 300, *Lycopodium Clav.* 469, *Manzanita*, *Rhus Arom.* 613-4, *Stillingia*.

EPILEPSY.

1. **Practical Annotations.**—In dealing with the fit of epilepsy it is a great mistake to raise the head. The head is raised on the supposition that the fit is caused by a rush of blood to the head and this supposition is in no way defensible. During the fit the supply of red blood to the head is cut off by an arrest of the breathing; what ought to be done is to *keep the head down rather than to raise it up*. And this is the right practice, for again and again *I have cut short a succession of fits in an epileptic by taking away the pillow or by letting the head fall over the edge of the bed or by raising the arms and legs so as to divert the course of the blood from them towards the brain*. I do not say that no good is to be done by compressing the carotids. Nor is anything to be said in favour of the practice of fighting against the convulsions by force or by rousing the patient by cold water or by excoriating the lips and nose by smelling salts. All that need be done is to unloose the neckerchief and shirt collar, to lower the head, to prevent the patient from injuring himself by gentle means and to wait patiently until the fit is brought to an end by the cessation of the process of suffocation which cessation happens in $1\frac{1}{2}$ or 2 minutes.

(b.) *The most frequent time for the attacks of epilepsy is in bed or in getting up after a long night spent in sleep.* Too much sleep has a stultifying effect and it is the stupid epileptic who is most likely to have frequent attacks. So that attacks which happen during sleep or shortly after getting up in the morning are often put a stop to or diminished in number and severity by shortening the hours spent in sleep. (Dr. Radcliff).

(c.) It is a remarkable fact that epileptic fits may be *kept up by the force of habit*. Hence the first thing to be done is to break up the habit. First if the patient feels an aura, if 3 or 4 drops of *Amyl Nitrite* be put upon an handkerchief and *inhaled*, the paroxysm will almost certainly be *aborted*. Several cases have been cured by this method alone without any internal remedy. *Nitro-glycerine* may be used for the same purpose ; it takes a longer time to act, but its effect is more permanent. Two drops of a 1 per cent. solution in pill may be given to an adult, or it may be given on a little sugar. It is also the remedy used for the permanent treatment of disease. In epilepsy there is at first general anæmia of the brain ; and as long as this organ is in an hyperæmic condition it is possible for a paroxysm to occur. It is on the principle of producing this *hyperæmic condition* that the *Amyl Nitrite* and *Nitroglycerine* abort the epileptic attack. The same result may be obtained by putting on an elastic belt around the neck, preventing free venous return and causing a fulness of the cerebral vessels. Two cases of epilepsy were cured in this way. In another case the patient applied the band at the time she felt the aura and it prevented the paroxysm. Afterwards she wore it constantly, and had but 3 attacks in 4 months, &c. For a permanent cure of a case like the present one it is always best to begin with bromides (*vide* below, para 2 and 3).

Another useful measure in the treatment of epilepsy is counterirritation applied to the back of the neck by the *platinum disc* or other instrument heated to a white heat.

(d.) The beneficial action of the ordinary Bromides is enhanced by the addition of Iodide (3 or 4 grs. to each dose) and Bicarbonate of Potash in cases where the memory is good and the appetite for food a little too good. Arsenic and is associated with the ordinary Bromides partly with a view to prevent the skin disorder produced by the use

of Bromides and partly as an antiperiodic tonic. In epileptics among which are very many cases of *le petit mal*, best result follows by combining small doses (2 or 3 mins.) of Arsenic. Bromide often seems to be almost doubled in remedial value when it is given along with Hypophosphite ; or that often 30 grs. of Bromide with 30 grs. of Hypophosphite given in 1 or 2 doses in the course of 24 hours will go so far in controlling the attacks as 45 grs. of Bromide given by itself. And this is no small gain, for by diminishing the dose of the Bromide the risk of stultifying and disfiguring the patient is to that degree diminished. Chloride of Ammonium is given along with the Bromide as a substitute for Pot. Bicarbonate and Pot. Iodide to the extent of 15 to 20 grs. in 24 hours and acts very much the same way as the Bicarbonate and the Iodide.

These preliminary practical notes have been given in order to enable the reader to understand the different methods of treatment of epilepsy which are described as follows :—

1. (Sp.) The following are the details of the treatment of epilepsy by Prof. Kowalewsky (of Kharkow). He takes cases which he considers possibly curable (those in which the epilepsy dates back less than ten years), and in these he reckons the minimum period for treatment at two years. This he divides into four *equal portions or semesters* for convenience in detailing his method. During the first half year he gives his patient a drachm of *bromide of soda* or such other bromide salt as is selected, each twenty-four hours, adding usually three to five grains of iodide of soda, and giving the combination in two or three equal doses in the morning, before dinner, and at night in a large quantity of water. In case there follows any decided *adynamia* from this quantity of the bromides, he *decreases the dose* somewhat, or in some cases *intermits* it for four or five days. During this semester also he *stops the treatment during the catamenia in female cases*. In order however, to have this plan succeed, it is necessary to allow a good supporting diet, though preferably one of *milk and vegetable food*. If there exists any *scrofulous taint*, *cod-liver oil* or *iodide of iron* is also administered. In case there should be any symptoms of brominism, such as headache, neuralgia, etc., in the beginning of this treatment, it was not necessary to stop the treatment ; as soon as it relaxed a little

these symptoms disappeared. Much advantage is had in these cases from *warm baths and rubbings*. Usually this treatment causes cessation of the attack, so that the patient is free from them during the last three months of the half year. Toward the close of the semester the medication is stopped for a period of from two to six weeks before beginning it again. In the course of the *second half year* the quantity of *bromide and iodide is reduced one-half* and given in the same way, and at its end there is again an interval of two to six weeks. In *third semester only the bromide* is given, and in doses of five to ten grains, morning and night, keeping up the same regimen and diet. In the *fourth half year* he begins with only five grains per diem, and later only gives the medicine at intervals of one, two, three, four or six days. After this the bromides are discontinued and the patient is given small doses of nitro-glycerin or, at intervals, in some cases, *tr. simulo (capfaris coriaciæ)*, which is said to have a marked influence over epileptic attacks. Prof. Kowalewsky claims that he has, by following out this plan of medication, already had quite a number of cures, in which the attacks have not reappeared for over ten years, and that he has lost faith in the incurability of epilepsy. Of course, in cases in which there is a specific or tubercular cause or complication, the treatment must be adapted to meet the special conditions. As regards other than medicinal treatment the author recommends electricity as an adjuvant in certain cases, but cautions against its employment in any case in which there is a tendency to cerebral hyperæmia. He also found benefit in weak, irritable, anæmic cases from daily warm baths, of temperature of 25° to 28°C. (88° to 95°F.) for fifteen or twenty-five minutes, watching the condition and nutrition of the patient, and when these are improved using baths gradually lowered in temperature and not so prolonged. In some cases combined baths and electrical treatment are of advantage. The quantity of Bromide given is certainly not large ; not even in comparison with his own treatment in other cases, for he recommends as much as three or four drachms *per diem* in cases of epileptic furor.

2. Begin with 10 grs. of Bromide of Potassium t. i. d. 10 mins. of Tr. Digitalis is added to counteract any depressing tendency. Order some laxative to be used occasionally and enjoin attention to the

state of the bowels, as constipation acts frequently as a predisposing cause of epileptic attacks, even when the patient is under the influence of the Bromide. If the fits do not cease under this treatment, raise the dose of Bromide first by another 10 grs. of Pot. Bromide, then by 10 of Sod. Bromide and finally by 10 of Ammon. Bromide. The most useful adjunct to the Bromide is Oxide of Zinc. A pill containing 3 to 5 grs. of Zinc Oxide with $\frac{1}{6}$ gr. of Ext. Cannab. Ind. should be tried with each dose of the mixture when the bromides fail. I have sometimes substituted Tr. Belladon. for Tr. Digit. in obstinate cases with benefit. As a rule this treatment is satisfactory. In those unfortunate cases in which the Bromides seem powerless, Dr. Gowers recommends *Borax* (q. v.) in scruple doses, combined with 1 or 2 mins. of *Liq. Arsenicalis*. Dr. W. Low of Hastings has recommended *Sodium Nitrite* and Dr. Ralfe has reported in favour of it. 5 cases not benefited by Bromides have improved under it; dose about 20 grs. The employment of Caffeine or Theine and Nitro-glycerine in the treatment of epileptic *vertigo* is valuable (Robert Saundby, M.D.).

3. Prof. Ball recommends *Bromides of Ammonium and Sodium* in the proportion of 10 grms. each to 100 grms. of water; 4 table-spoonfuls of this being taken in Inf. Valerianæ at first 4 times a day and gradually increased until taken 8 or 10 times unless beneficial effects have been observed. Ext. Belladonna and Zinc Oxide of each 1 grm. are also made into 40 pills, of which two are given daily or in obstinate cases, 4 daily. In subjects in whom there is *congestion*, there should be employed as adjuvants *drastic purgatives*, *venesection*, *leeches to the temples or behind the ears* or *revulsives* as the *seton* or points of *actual cautery*. As purgative he prescribes the following pills:—R Aloes, Seammony, â â. grm. 1, Jalap, Calomel, â â. grm. $\frac{1}{2}$, Almond Soap q. s. M. ft. pills 24. Three should be taken about once a week on getting up in the morning and three towards the middle of the day. The action of these remedies is immediate, the attacks diminishing from the earliest days, but the treatment requires to be continued with great regularity for months or even years. Another advantage of these means is that it is easily borne, no gastric irritation resulting even from large doses, &c.

4. Treatment with Pot. Bromide, and pills composed of Zinc Valerian, Conium and Aloes have also proved very effective in epilepsy.

5. (Sp.) Dr. Stewart records several cases illustrating the value of *Borax* in Epilepsy, and from which the following conclusions may be drawn :—That *Borax* exercises a peculiar control over *nocturnal seizures* and in cases where the fits are entirely of this kind that the greatest good may be expected ; that *Bromide of Potassium*, on the other hand, exerts a more powerful influence over *diurnal seizures* ; and that in cases characterized by *both day and night fits a combination of these two remedies* will produce most benefit. *Vide* “Clinical Reports” on **Borax**, pg. 109.

6. Epileptic attacks can be materially shortened if the alternating conditions of *anæmia* and *hyperæmia* are treated with *Ammonia* or *Amyl Nitrite* (vide page 936, para c.), and with *Ethyl Bromide* when the congestive stage sets in (vide pg. 255).

7. R Sodii Nitris grs. 5, Liq. Arsenic mins. 10, Tr. Bellad. mins. 5 to 10, Syr. Zingib. dr. 1, Aquæ oz. ℥. M. Give t. i. d. A case of 15 years' duration has been cured with it.

8. Antifebrine in doses of grs. 4 t. i. d., and in some 8 grs. t. i. d., was effective in 8 cases of epilepsy. Of these, 3 cases had no return of fits for 3 years.

9. R Pot. Bromide grs. 15, Sodii Bromidi grs. 15, Liq. Arsenic mins. 2, Succ. Conii dr. $\frac{1}{2}$, Syr. Aurantii dr. 1, Inf. Gent. ad oz. 1. M. The best combination for long continued use.

10. R Pot. Bromidi oz. 1, Pot. Iodi dr. 1, Ammon. Bromidi drs. $1\frac{1}{2}$, Pot. Bicarbon. grs. 40, Inf. Calumbæ ozs. 6. A teaspoonful before each meal and 3 teaspoonfuls just before going to bed. It may be diluted with a little water. (Dr. Brown-Sequard).

11. **Elepizone**.—R Sod. Brom., Ammon. Brom., â á. grs. 30, Pot. Brom. grs. 20, Tr. Nuc. Vom. mins. 15, Caramel q. s., Winter-green water ad oz. 1. M. dr. 1 four times a day.

12. R Arsenii Bromidi gr. $\frac{1}{24}$, Picrotoxin gr. $\frac{1}{60}$. M. ft. pil. These pills have been extensively used in Paris hospitals as specific in epilepsy. *Vide* pg. 71.

13. **Tincture of Life for Fits in general**.—R Sp. Vini Gallici ozs. 2, Capsici drs. 2, Myrrhæ dr. $\frac{1}{2}$. M. Take 15 drops t. i. d. in half a teacupful of warm water, sweetened, and when any person is in

a fit, give half a teaspoonful in a teaspoonful of water every 5 or 10 minutes until consciousness returns. (J. Hamilton, M.D.).

14. **Pil. Antiepileptic.**—R Pot. Ferrocyan. gr. $\frac{1}{2}$, Zinc Valer. gr. $\frac{1}{2}$, Quin. Valer. gr. 1, Ext. Valer. gr. 1. M. ft. pil.

15. Potassium Osmate gr. $\frac{1}{64}$ in pill. Dose : One pill gradually increased until 15 pills a day have been taken and no more.

16. **Importance of examination of the teeth in Epilepsy.**—Dr. Bakowski mentions an instructive case of epilepsy occurring in a young Jewess. It had been going on for nine months, and latterly the fits had become more frequent, there being several every day. Bromide of potassium, quinine, arsenic, and assafoetida had been given without any effect. Finally, although there was no complaint of toothache, it was decided to examine the mouth. Two teeth were found to be carious—the first upper molar on the right and the first lower molar on the left side. These were extracted, with the result that the fits entirely ceased and did not return, though the patient was under observation for six months subsequently. Upon being closely questioned the girl remembered that before the fits commenced she had had some unpleasant sensations in the affected teeth, but nothing that could be described as pain.

17. Absinthe, Ailanthus, Anacyclus Pyr., Antipyrin, Apomorphia, Argenti Nitras, *A Phosphas* 753, *Auri Bromidum* 113, Bryonia, Cannabis 139, Castoreum, Caulophyllum, Coccus Ind., Cupri Sulph., Digitalis, Ditany, Ergot, Ferri Bromide Gelsemium 298, *Hyos. Hydrobrom.* 361, Jatamansi, Lithium Bromide, Lobelia, Mistletoe 498, Morphia, Morynga Pterygosp., Nickel salts, Physostigmine. 563, Quin. Valer., Sod. Chloride 660, *Solanum Caro.* 668, Salix Nigra 628, Stramonium, *Sulphonol* 696, Strychnia, Zinc Bromide 746, Z. Lactas, Z. Oxide. *Vide Cerebro-Spinal Sedatives.*

Dietary.—Prof. Kowalewsky's ideas as regards the diet are liberal, but he says that for all cases of epilepsy taken together, a vegetable and milk diet is best. Alcohol he forbids, even in medicine, at least in the beginning of the treatment ; he says he has seen the epileptic attacks revived by even a few drops of alcohol. Tea he

allows in *moderation*, but he advises that *coffee, chocolate, etc.*, be *dispensed with* at least during the treatment.

Dr. Robert Saundby also generally recommends *abstinence from alcohol* as it is more likely to do harm than good. He says that the diet should be rather *meagre* than liberal, especially in *animal food* and the tendency to overeat themselves should be checked.

While Dr. Radcliffe says :—" An epileptic is much more likely to get on satisfactorily who is not afraid to take on liberal diet of fat or butter or cream and who makes a point of *stinting himself in nitrogenous articles of food*, in butcher's meat more especially. There is no harm in giving light table Beer, or a light wine like Petit Bordeaux. Coffee or Cocoa are preferable in many cases to tea.

EPISTAXIS.

1. (Sp.) Certain forms of epistaxis have been effectively and speedily relieved by **counterirritation over the hepatic region** after hypod. injections and even plugging have failed. Application of a large blister by painting **Liq. Epispasticus** over the hepatic region suits this end. The frequent occurrence of epistaxis in youth is evidently due to the excitement and hyperæmic condition of liver and digestive organs, during the period of active growth and the constant demand upon its activity. The liver at this stage closely resembles to the condition in after life which is the casual factor in the development of piles. The derivative that cures the hemorrhoidal fluxes certainly puts an end to the epistaxis, the outcome of hepatic congestion.

2. (Sp.) **Injection of lemon juice** by a glass-syringe into the nostril, arrested the bleeding in a case of rebellious epistaxis which had resisted various modes of treatment, including plugging of the anterior nares.

3. Before plugging the nostrils, snuffing up cold water or a solution of alum in water, try **injection of hot water** in the nasal passages, with ice externally.

4. Tr. Hydrastis and Sclerotic Acid will be found most useful in hæmoptysis and in epistaxis (in the latter the fl. ext. may be used with Glycerine and Tr. Matico most efficaciously as a local styptic or

on a tampon), or in vicarious hemorrhages of women (H. MacNaughton Jones, M.D., M.A.O., F.R.C.E. & I.).

5. *Antipyrin* 59, *Cocklebur*, *Ergotine* 249, *Eucalyptus* *Rostratus* 268, *Hamamelis* 319, *Hazeline* 322, *Hot Water* 677. *Vide* **Hæmostatics.**

ERYSIPELAS.

1. (Sp.) A very great effect is produced upon erysipelas and its congeners by covering the surface with *white lead paint*. This is due to exclusion of air ; the lead of that compound is in an insoluble condition ; nor it is believed that the inflamed skin is in a state to absorb any material applied on its surface ; by the time that it has recovered, the lead is separated from the living tissue by a tolerably thick layer of desquamated and dead epidermis. This application relieves pain of erysipelas in half an hour. If there be any wound, dress it with cotton wool saturated with Boroglyceride. White lead paint obtainable at any oil and colour shop, is made by rubbing up the Carbonate of Lead with Linseed Oil and for the purpose in question, as indeed also for ordinary use, is mixed with Turpentine as a drier. When applied over hairy parts, the surface should be shaved or at least the hair cut very close. 5 cases have been cured by this application over the erysipelatous part. Idiopathic erysipelas also yields to the same treatment.

2. (Sp.) Paint over the inflamed part with 1 in 1000 *Corrosive Sublimate solution*, followed by the application of a covering of *Carbolized Cotton wool* ; this is done twice in 24 hours. It is specific in erysipelas of the face. In 20 cases thus treated, the spread of the inflammatory process was at once checked in its extension and the disease entered into the desquamative stage on the 2nd or 3rd day. By this method the length of both the disease and period of convalescence was notably diminished and the complications frequently accompanying erysipelas were avoided. At the same time *keep clear primæ viæ and give freely tonics*, with at the same time internal administration of "*Swicton's Liquor*," a solution of Corr. Subl. in Alcohol.

3. (Sp.) *Paint with Tr. Iodine*, around the margin of erysipelatous spots, a border about 1 or 2 inches broad twice a day as long as there is any tendency of disease to spread. It has been successfully used for 10 years. The extension of the disease is prevented even when it occurs on the head. The skin must be tested by the touch in order to accurately determine the limit of disease. The *Iodine* must be *applied* on the healthy skin *beyond the limits of increased sensibility* because extreme sensibility may be present considerably beyond the visible limits of the disease.

4. Dr. Ulrich, a Danish Military Surgeon, having had 89 cases of erysipelas of the face in young soldiers, has published in a comparative table the results of the three different methods of treatment which he adopted as follows :—(a.) 33 cases were treated with the **application of ice compresses**; in 20 of these the erysipelas spread considerably, in 4 slightly, and in 9 not at all. (b.) 27 cases were treated with the **painting of pine tar**; in 14 of these there was much spreading, in 1 a little, and in 12 none. (c.) 29 cases were treated with the **painting of a solution of Ichthyol** in its own weight of Ether and double its weight of flexible collodion; in these the spreading was considerable in 8 cases, slight in 6, and in 15 there was none. The mean duration of the disease under the *Ichthyol treatment* was 6·88 days, while under the *Ice* and *Tar* methods it was 8·33 and 9·3 days respectively. The relapses, too, were decidedly less numerous under Ichthyol than under either of other plans. Dr. Ulrich suggests that still better results might be looked for if the Ichthyol were painted not merely over the affected parts, but over a considerable portion of the surrounding skin. (*Vide Ichthyol*, 372-3.)

5. M. Tison has treated 20 cases of facial erysipelas successfully by giving *Aconitine* in doses of 1/250 gr. every 6 hours and has rarely found to continue it for more than 3 days. Externally he has always used a *solution of Camphor in Ether*, which the patients have found cool and comfortable and stop the spreading of erysipelas.

Carbolic Acid Treatment :—(a.) I brush the boundary line and parts extending a finger's width on either side of it, with a 10 p. c. *alcoholic solution of Carbolic Acid*, until the integument thus

painted shows a decided discoloration. It is said to impart an agreeable sensation at the points of application, and to be successful in aborting Erysipelas (Dr. Keppel).

(b.) Injections of six decigrammes (*i. e.*, contents of a Pravaz' Syringe) of a 1 p. c. solution of pure carbolic acid, were thrown twice daily for 2 successive days, into the subcutaneous tissue just beyond the margin of the erysipelas, and its progress was arrested in the direction in which the injections were made; they had also a decided influence in diminishing febrile action, and in inducing general improvement. *Injection of carbolic acid is extremely painful and is applicable in cases of grave nature of the face and hairy scalp.*

(c.) R Acid Carbol., Alcohol, â â. part 1, Ol. Terbinth parts 2, Tr. Iodini part 1, Glycerini parts 5. M. Applied every 2 hours to the affected parts—causes no pain. Internally—quinine and digitalis, and an emetic if indicated. (Dr. Rothe).

(d.) Wash the erysipelatous part and also the entire neighbouring surface with soap and then bathe daily these patches with 5 p.c. solution of Carbolic Acid dissolved in absolute Alcohol (Rosenbach).

(e.) Paint the entire affected surface and surrounding zone twice daily with a mucilage of Gum Arabic containing from 3 to 5 p. c. of Carbolic Acid (Nolte).

6. (Sp.) R Creolin part 1, Iodoform parts 4, Lanolin parts 10. M. To be applied in a perfectly thin layer, by means of camel hair pencil, over the affected part and for an inch or two beyond its limits and then to be covered with a thin layer of gutta percha. It is to be continued for several days after the disease has ceased to spread. **To erysipelas of face and hairy scalp** this method is said to be especially applicable and has been largely used by the Austrian and German Physicians (Dr. Koch).

7. Dr. Hallopeau recommends the use of a solution of 1 part to 20 of **Salicylate of Sodium**. Thick cloths are wet with this solution, then applied to the affected parts, and then covered with a layer of rubber-cloth, so as to prevent evaporation. Almost immediate relief is obtained, and a cure is said to follow on the 3rd to the 5th day.

8. Dr. Kraske advises making incisions into healthy skin around the erysipelatous patch before applying the antiseptic substance.

9. Wolfier makes use of mechanical compression by bandages applied so as to circumscribe the inflamed tissue, while Kraske proposes elastic rubber bands to accomplish the same effect where these are applicable.

10. Two drams. of Ferri Sulph. to a pint of water forms an useful lotion for erysipelas.

11. F. 5. Colic.

12. *Acid Camphoric* 8, *Anthraxobin*, *Antifebrin* 51, *Acid Picric* 15, *Antimony Tart.*, *Bellad.*, *Camph. Phenique* 9 to 10, *Cinchona*, *Collodion*, *Creasote* 230, *Eucalyptus* 259, *Eucalyptine* 269, *Ferri Perchl.* 286, *Gelsemium*, *Hamamelis*, *Hazeline*, *Hydrochinon*, *Iodoform* 388, *Jaborandi* 404, *Kieselgühr*, *Lycopodium Clav.*, *Manganese*, *Menthol*, *Oleat. Argenti*, *Oleat. Bismuth* 516, *Pot. Chloras* 575, *Resorcine* 608, *Rhus Toxicodendron*, *Salol* 633, *Vinolia*.

ERYTHEMA.

1. R *Acid Boracic* P. parts 4, *Acid Benzoic* part $\frac{1}{2}$, *Vaselin* parts 20, *Bals. Peru* parts 5, M. For erythema, excoriations, superficial wounds, &c. (Championnière).

2. F. 6. Pruritus.

3. *Acid Picric* 15, *Antifebrin* 51, *Ichthyol* 367, *Lanolin* 455, *Kieselgühr* 439, *Menthol* 492, *Pot. Chloras* 575, *Sp. Rect.*, *Stillingia* 686.

EXOPHTHALMIC GOITRE.

1. The treatment adopted has been essentially and uniformly, the administration of **Iodine, Bromine, and Iron in combination**, the proportion between these elements varying in relation to the predominance of the thyroid enlargement with the exophthalmos, the nervous derangements, or the anæmia. The combination has been arrived at experimentally, and it has been found that where the goitre is large and the exophthalmos highly marked, Iodine can be given in doses of 10 and 15 grs. t. i. d. with advantage. It also seems to be the ingredient most effective in reducing palpitation of

the heart and frequency of the pulse. Rest from physical exertion and from emotional disturbances has been most strictly enjoined, while a generous diet has been allowed.

2. Dr. Hammond recommends the following plan of treatment, which produced marked improvement in all the symptoms in each of the three cases of exophthalmic goitre :—A pill in doses of 1 gr. of **Carbazotate of Ammonium** t. i. d. for a week, of 2 grs. t. i. d. for a second week, and afterwards, if it can be borne, of 3 grs. t. i. d. for a third week. It is rarely possible to take it longer than 3 weeks owing to its physiological effects. When this was discontinued, it was followed up with 7 drop doses, t. i. d., of **Tr. Strophanthus**.

3. Opium is a valuable adjuvant to Pot. Iodide in the treatment of exophthalmic goitre.

4. Digitalin 235, Duboisin 239.

FAINTING (SYNCOPE.)

1. First place the patient in a recumbent position flat on the back, with the head low. The clothing should be loosened around the neck and body, the access of fresh air should be freely permitted, and to this end, persons should be kept at a distance. Diffusible stimulants, as Sp. Ammon. Aro., Brandy or Whiskey should be administered or strong Ammonia may be inhaled. Cold water may be dashed on the face, the respiration being thus excited and in turn the heart caused to beat. If these fail, artificial respiration and galvanizing the pneumo-gastric may be resorted to.

2. Menthol 492, Nitro-glycerine 509.

FEVERS.

Neutral Treatment in Fevers.

After a long experience and observation in the treatment of fevers of all grades and characters I have found as an almost invariable thing, a strictly neutral system to be the best. Most of the fever remedies that have been used destroy Zymotic fermentation by their neutralizing powers simply. In fact most medicines that are supposed to

possess antipyretic powers are peculiarly destructive to fermentation. Acids of every class and description are prejudicial in fevers. Though antipyretic in a sense, on account of their destructive effect upon the lower form of organic and vegetable life, in fevers, and particularly the vegetable acids, they but add to the oxidizing processes that are prevailing in the system. Therefore *all sweets and any viscious food or other kinds of nutriment tending to acidity or fermentation be laid aside*. Let a milk diet be ordered exclusively and begin with that **wonderful antipyretic, Bicarbonate of Soda**, which is harmless for evil but acts like magic for good. Give it in *heroic doses* until you have, as it were, *saturated your patient*. Temperature will then fall, heat abate, the skin will act, the bowels will move, urine will become bland, the bile will flow, absorption will be reinforced, assimilation will slowly but surely begin to take place, headache and other distressing symptoms will pass away and patient will now speedily recover. In the treatment if we find the secretions from the skin reeking with the feverish smell, with odour of *swill tub or vinegar manufactory*, we add to the treatment *affusion or sponging with tepid water* containing a large proportion of Soda (1 to 4 or 5 gallons of water).

R Sodæ Bicarb. oz. $\frac{1}{2}$ —1, Ext. Gelsemii Fl. dr. 1, Sp. Ether.

Nitr. dr. $\frac{1}{2}$, Ess. Zingib. dr. $\frac{1}{2}$, Aquæ Menthæ Pip. ozs. $7\frac{1}{2}$.

M. A tablespoonful in half tumbler of water every 2 or 3 hours.

Avoid all sweets and sours. After convalescence is established Quinine and Mineral Acids serve as tonics. But the scrupulous avoidance of every species of vegetable acids and fruits of all kinds are strictly enjoined till health is in every way established. Should the Soda operate on the bowels through its combination with the acids and effete matter in the bowels, this may be stopped by adding to the formula above, a dr. 1 of deodorized Tr. of Opium which is a good addition by which existing irritation is calmed and sleeplessness and delirium avoided. (Dr. L. L. Holcombe).

MALARIAL INTERMITTENT FEVER (AGUE.)

Cold Stage (Malarial Chills).

1. Dr. J. D. Hunter claims that he has found that **potassii nitras** is an unusually effective agent in the treatment of **chill and**

fever. He states that he has tested it thoroughly during the past five years, and claims that at least sixty-five per cent. of all the cases treated have been cured by the administration of a single dose, while the remaining thirty-five per cent. were uninfluenced by continued doses.

The best results were obtained when administered during the promonitory stage, which usually ushers in the chill. Twenty-five or thirty grains given at this period **will either abort the chill or materially shorten its duration.** The febrile stage is correspondingly shortened or reduced to a minimum. A second dose is seldom required ; relapse is infrequent. Recent attacks, as well as protracted conditions, were alike cured by the administration of a single dose, while cases apparently similar, corresponding in character and duration, were not relieved. Other forms of intermittent, not associated with chill, were not benefited in a single instance.

Dr. Hunter writes that he has kept his cases under close observation, and that a number of his colleagues have likewise employed this salt, and their experience was identical with his as regards the unusual rapidity and permanence of cures. Their proportion of cures, however, he writes, did not quite equal his own.

2. Administration of Chloroform dr. 1 with Whisky drs. 4. (*Vide* pg. 169).

3. Hypodermic injection of $\frac{1}{6}$ gr. of Pilocarpine.

4. *Amyl Nitrite* 47, *Eupatorium Perfol.* 271, *Gelsemium* 298, Ice 363, Opium, Warm drinks and warm applications.

Pyrexial Stage.

Antipyretic Pills:—All the following four kinds of pills may be used at the *onset of malarial fever or at any time during its progress to establish diaphoresis and hasten the apyrexia*, after which the treatment indicated may be prescribed :—

1. R Quin. Sulph. grs. 2, Calomel gr. 1, Antimony Tart., Morphiae, â â. gr. $\frac{1}{8}$. M. ft. pil. 1 or 2 pills every 2 hours until fever subsides or until 10 pills have been administered.
2. R Quin. Sulph. grs. 2, Ipecac., Camphoræ, â â. gr. $\frac{1}{2}$, Gelsemine gr. $\frac{1}{8}$. M. ft. pil. 1 or 2 pills every 2 hours.

3. R Quin. Sulph. grs. 2, Ipecac., Camphoræ â â. gr. $\frac{1}{2}$, Pilocarpine gr. $\frac{1}{8}$. M. ft. pil. Dose : same as above.
4. R Quin. Sulph. grs. 2, Opîi gr. $\frac{1}{4}$, Ipecac. gr. $\frac{1}{2}$, Ext. Aconiti gr. $\frac{1}{8}$. M. ft. pil.

5. **Livingstone's Fever Pills.**—R Jalapæ Res., Rhei, â â. grs. $1\frac{1}{2}$, Calomel gr. $\frac{3}{4}$, Quin. Sulph. gr. $\frac{3}{4}$. M. ft. pil. 2 or 3 pills may be taken for the first dose. If repeated too frequently, they induce salivation. Dr. Livingstone held these pills in high estimation ; he always employed them at the **onset of malarial fevers** ; except at such time, however, they are not likely to be useful.

6. **Crosby's Fever Pills.**—R Quin. Sulph. grs. $1\frac{1}{2}$, Ext. Fol. Aconite gr. $1/6$, Morphiæ Hydrobrom. gr. $1/20$, M. ft. pil. Dose : 1 or 2 pills.

7. **Decoction of Lemon as an Antipyretic.**—It is used with surprising success in **ague and malarial affections**. It is even reported *superior to quinine*. Dr. Aitken of Rome has employed this decoction in about a dozen cases of **Enteric and Intermittent fevers**, the *effects* observed have been *as good as* those of *large doses of quinine*. He finds it particularly suitable when complications such as jaundice contraindicate quinine. It is prepared as follows as directed by Dr. Magheri :—

A freshly gathered and unpeeled lemon being taken, cut into thin slices, put in three cupfuls of water, and boiled down to one teacupful in a clean earthenware jar. This quantity of the decoction was then allowed to stand over night in the open air and given the first thing in the morning, after the liquid has been separated from the rind, pulp and seeds, by careful filtration and compression just before it was drunk. It has never seemed necessary to decoction prepared from more than one lemon daily. Freshly cut lemons had more apparent effects than those not quite recently gathered, a serious drawback to the use of decoction in countries where there are no lemon trees.

8. **Treatment of Intermittent Fever with Sunflower.**
—(a.) A Crude tincture of the flowers of the common sunflower (*Helianthus annuus*), made by filling a flask with the dry or fresh

flowers and stems finely cut, covering them with *vodka* (*aqua vitæ*) and leaving the tightly-corked flask in the sunshine or in a warm place two or three days, is used for malarial fever by the Russian, Persian, and Turkish peasantry. The dose is a wineglassfull three times a day. Competent Russian physicians assert that it is **an excellent substitute for quinine**; that in recent cases cure results in from one to three days, and in obstinate cases in a week.

(b.) In the Caucasus and the regions of the Volga the inhabitants employ the sunflower (*Helianthus annuus*) by spreading the leaves on a bed covered with cloth and moistening them with warm milk and then wrapping the patient up in the 'bed. Perspiration is thereby produced and the patient is kept in this condition for an hour or two. The same process is repeated every day until the access of the fever has ceased. The infusion of the flowers and stems, as above described, are also used internally.

9. Chamomile 158, Eupatorium Perfol. 271, Aspidospermine 591, Hydrochinon 352, Ipecac. 397, Kaolin 432, Resorcine 607, Sanitas Fluid 648. *Vide Antipyretics and Diaphoretics.*

Pyrexial (Sweating) Stage.

1. **Pil. Antimalarial No. 1.**—R Quin. Sulph., Cinchonid. Sulph. $\hat{a} \hat{a}$. gr. 1, Acid Carbol., Menthole, $\hat{a} \hat{a}$. gr. $\frac{1}{8}$, Acid Arseniosi gr. 1/40, Capsici gr. $\frac{1}{4}$. M. ft. pil. One to two pills after meals. This pill is largely prescribed in the most severe malarial districts of America with remarkable results.

2. **Pil. Antimalarial No. 2.**—R Quin. Sulph. gr. 1, Cinchonid. Sulph. gr. $\frac{1}{2}$, Ferri Sulph. Exsic. gr. $\frac{1}{4}$, Acidi Arseniosi gr. 1/40. M. ft. pil. Dose : 1 to 2 pills.

3. **Pil. Antimalarial (McCaw's).**—R Quin. Sulph. gr. 1, Ferri Sulph. Exsic. gr. $\frac{1}{4}$, Gelsemin gr. $\frac{1}{4}$, Acid Arseniosi gr. 1/80, Podophyllin gr. $\frac{1}{8}$, Ol' res. Pip. Nig. gr. 1/16. M. ft. pil. 2 pills t. i. d. after meals.

4. **Hubbard's Pills.**—R Quin. Sulph. gr. 1, Piperine gr. $\frac{1}{2}$, Aloes Soc. gr. $\frac{1}{2}$, Strychn Sulph. gr. 1/50. M. ft. pil. Dose : 1 pill.

5. **F. 11. Constipation.**

6. **Pil. Antiperiodic** (Kirby).—R Phosph. Mol. gr. $\frac{3}{4}$, Cinchonid. Sulph. gr. $1\frac{1}{2}$, Piperine gr. $\frac{1}{2}$, Podophyllin gr. $\frac{1}{25}$, Ext. Nuc. Vom. gr. $\frac{1}{8}$, M. ft. pil. 1, 2, or 3 pills t. i. d., with food. A useful tonic and antiperiodic, given with great advantage in malarious cachexia, adynamia, and in ague and remittent fevers, especially in cases of long standing, when the system has been habituated to Arsenic or Quinine. This pill is exceedingly useful for persons residing in India and in other tropical climates suffering from the depressing effects of extreme heat.

7. **Pil. Anti-Chill**.—R Cinchonid-Sulph., Iron ferrocyanide, Piperine â â. gr. 1, Acid Arseniosi gr. $\frac{1}{20}$. M. ft. pil. 1 pill after meal.

8. **Pil. Ague** (Improved) R Cinchonid. Sulph., Xanthoxilin, â â. gr. 1, Gelsemini, Pv. Capsici, â â. gr. $\frac{1}{16}$, M. ft. pil. Dose : 1 to 2 pills.

9. **Pil. Ague**.—R Chinoidin grs. 2, Ext. Coloc. Co. gr. $\frac{1}{3}$, Ol' res. Pip. Nig. gr. $\frac{1}{6}$, Ferri Sulph. Exsic. gr. $\frac{1}{2}$. M. ft. pil.

10. R Chinoidin grs. 3, A. Arseniosi gr. $\frac{1}{20}$, Ferri Sulph. gr. 1. M. ft. pil. 1 t. i. d. A very useful combination in chronic malarial diseases, tic, cephalalgia, cervico-brachial and cervico-occipital neuralgia, ovaralgia, sciatica, &c. ; also in epilepsy, chorea, stricture of the urethra, summer catarrh, asthma, and laryngismus stridulus, **when induced by malaria.**

11. **Treatment with Simple Ointment**.—Dr. Alois Fénykövy communicates an account of some observations made on the treatment of intermittent fever by means of *friction of the back along the spine*. Many years ago, while at Nisch with his regiment, there occurred so many cases of intermittent fever that the stock of quinine was becoming exhausted, and in order that the patients might not be entirely without some sort of treatment, it was ordered that they should be rubbed twice a day along the spine with simple ointment. The day after this order had been given it appeared that the usual attack had not come on ; accordingly, since that time Dr. Fénykövy has very frequently employed this treatment, and usually with marked success. Indeed, he says that three-fourths of his cases have done very well without any quinine at all.

12. Finely cut or thoroughly crushed **laurel leaves** are put into a bottle to fill about a third of the vessel. The latter is then filled up with water, well corked and left to stand in a sunny or warm place for 4 days, after which the infusion is filtered and administered, 1 oz. once daily (before expected paroxysms, if given in febrile days). One, two, or three doses are said to be quite sufficient to **cut short the malarial intermittent fever**. It has been enjoying a **high antimalarial reputation** in the South-Russian popular medicine from time immemorial.
13. (Ind.) R Aconit. Heteroph., Delp. Denud. Chiratae, Coccul. Cord., Cyperus Hexas., â â. equal parts. M. ft. pulv. Give 30 to 60 grs. during intermission of intermittent fever.
14. (Ind.) R Aconit. Heteroph., Bonduc (Kernel), Coccul. Cord., Cyper. Rot., â â. equal parts. M. ft. Pulv. Dose : 20 to 40 grs. A tonic and antiperiodic in malarial fevers, debility, &c.
15. (Ind.) R Conessi bark, Aconit. Heteroph., Cyperus Rot., Coccul. Cord., Ginger, â â. drs. $1\frac{1}{2}$, Aquæ oz. 16. Boil till 6 ozs. remain. give $\frac{1}{3}$ part t. i. d.
16. (Ind.) R Azadiracta Ind. grs. 30, Piper Nig., grs. 10, Chiratae grs. 10, Helleborus Nig. grs. 4 to 8 M. ft. pulv. 1.
17. Acid Carbolic 8, Angustura, Apio 64, Coca 181, Gelsemium 298-9, Lanoline 454, Lucumin 761, Picrasma Quassioidis, Quinine 596, Quinoidine Borate 7, Warburg's Tincture. *Vide Antiperiodics.*

REMITTENT FEVER.

1. Keep bowels open by *Colocynth* or *Jalap* with a moderate dose of *Calomel* (*vide* also F. 24,25, pg. 874) and give *diaphoretics* or *antipyretics* according to circumstances. *Cooling drinks* and *iced water* should be given, whilst ice is applied to the head which should be shaven if the heat and pain be great. *Cold affusion, sponging* (*vide* pg. 648), *wet sheet* even used if the temperature be very high, care being taken not to apply cold long enough to cause depression. Draughts of *tepid water* will soothe the stomach and relieve it of bile and other matters, or an emetic of *Ipecac.* will answer the purpose still better (*vide* pg. 397); if the retching be obstinate, swallowing small pieces

of ice is grateful. Effervescing draughts of *Citrate of Potash* and *iced soda water*, and the application of *sinapism* or *chloroform* on *lint* over the stomach will give relief (*vide* pg. 447). Pain over liver and spleen may be met by hot fomentations or *flax seed poultices*. Most important is to watch remissions which generally occurs in the morning. A full dose of 10 or 15 grs of *Quinine* in solution should now be administered. If stomach does not retain it, inject *hypodermically* (*vide* pg. 599). *Quinine* must be continued until symptoms abate, &c. When the fever becomes *adynamic* or *typhoid* or *continued* or when remissions are absent or transient, *Quinine* must be given in all stages irrespective of the remission (*vide* pg. 733.) When the *adynamic* stage supervenes, wine, brandy and other stimulants are necessary (*vide* F. 1, and 2), pg. 806, and *Quinine* may be given combined with decoction of *Cinchona* and *Ammonia*; alcohol (*vide* pg. 34 to 35); animal broths; milk &c. In *adynamic* and *pernicious* forms it is important to bring the patient rapidly under the influence of *Quinine*. In *pernicious* attacks *Quinine* must be combined with alcohol stimulants and warmth and in the *cold* stage combined with *Quinine*. (Sir Joseph Fayrer). *Vide* F. 6. pg. 952.

2. F. *Alstonia* Cons., A. *Scholaris* 236, *Chionanthus*, *Gelsemium* 299, *Quinine* 596. *Resorcine* 607, *Sulphonal* 697, *Sulphur* 699.

Vide Intermittent Fever.

HEMORRHAGIC MALARIAL FEVER.

If the disease be mild in its onset, characterized by decided intermittence in its symptoms and the presence of red blood corpuscles in the urine or sometimes the hemorrhage is from the bowels instead of kidneys, it will indicate that the blood is less profoundly altered. Here a few small doses of *Calomel* with *Opium* and *Bicarbonate of Soda* to stimulate the biliary secretion, followed by sufficient doses of *Quinine* will probably effect a cure. When however the type of disease is grave and violent, the stomach will be greatly nauseated with frequent retching and vomiting of a greenish fluid filled with mucous flocculi, chills, shivering and bloody urine. Here we must at once apply a blister over the epigastrium and liver,

give an hypod. injection of $\frac{1}{4}$ to $\frac{1}{2}$ gr. of *Morphia* and repeat after 1 or 2 hours. If the stomach is not quieted and reaction established, give 3 to 5 grs. of Calomel with Bicarbonate of Soda every 2 to 3 hours till enough has been retained to act with certainty upon the liver (generally 15 to 20 grs. suffice). If the Calomel does not move the bowel after a reasonable time, say 4 to 5 hours after the last, give enema of warm water containing a tablespoonful of *Camphorated Oil* every hour or two till there is evacuation. If stomach is still troubled with nausea, give Creasote a drop, made into an emulsion with Sodium Bicarbonate and a small quantity of *Morphia* with *Aqua Menthæ*, every one or two hours *pro re nata* and as soon as a bilious discharge occurs from the bowels or reaction established give Quinine either by stomach or by injection in from 5 to 10 gr. doses for its specific effects in counteracting or restoring the malarial cachexia; generally from 30 to 50 grs. will be quite sufficient. Afterwards give *Tr. Ferri Perchl.* in 20 to 30 min.-doses for toning up the debilitated blood vessels, reconstructing and vitalizing the hæmoglobin and red corpuscles, &c. If kidneys should fail to act or work feebly give frictions over the back with a *Lin. Terebinth.*, *Tr. Digitalis* and *whisky* rubbed in warm. Some *Spirits of Turpentine* given internally in 3 to 5 drop doses may be needed to supplement the liniment frictions for hastening the resumption of functional activity of kidneys.

TYPHOID (ENTERIC) FEVER.

1. (Sp.) **Antiseptic Treatment of Enteric Fever.**—During a light epidemic of enteric fever, which prevailed in Attensburg from August to November, 1879, Dr. C. G. Rothe was accidentally led to make a series of therapeutic observations. From the middle of August to the end of October, 25 cases came under Dr. Rothe's observation. Of these 25 cases, he treated the first six by the method which he had employed for some years, and which always yielded him satisfactory results. This consists, during the first days of the disease, of hourly doses of *Inf. of Digitalis* (1 in 100), with Aconite and *Tr. of Iodine*, until a distinct effect on the pulse was produced. With this he used *permanent cold wrappings*, *Quinine*, or, according to circumstances, *Salicylic Acid* in large doses; and in case of necessity—that is, when the temperature

remained continuously at or over 104°) F.—cold baths. Of these six cases, one ended fatally in the fifth week. This case was complicated with double pneumonia. The remaining were somewhat protracted, 4 to 6 weeks elapsing before convalescence was established.

On the 17th Sept., he received the 7th case for treatment. The patient aged 28, had a high morning temperature of 104.9° F. Pulse, 110 ; he had been ill 2 days. Digitalis and cold wrappings were ordered. On the 19th Sept., the morning temperature was 105.3° F., the pulse 120. As severe diarrhœa had occurred during the night, for which Dr. Rothe had for years almost exclusively used the Carbolic Acid and Iodine, in the cases of adults as well as of children, unless some particular indications required a different treatment, he added to the *Inf. of Digitalis* (1 in 200), *Carbolic Acid and Rect. Spirit*, of each 75 centigrammes, and 15 drops of Tr. Iodine. The patient was directed to take a tablespoonful every hour, and the wrappings were continued. On September 20th, temp. 101.48° F., pulse 84; the spleen was slightly swollen. There had been no more diarrhœa during the night. The patient had no thirst and slept quietly. The patient was ordered to take the medicine hourly during the day; the wrappings were applied only in the afternoon. The subsequent progress of the case was one of steady improvement. The extraordinary effect of the medicine on the vascular system was here such as Dr. Rothe had never before observed under the use of Digitalis alone, in such small doses.

A woman, aged 36, came under treatment on September 19th, after having been very unwell for several days. The temp. in the afternoon was 105.8° F.; pulse 112; tongue covered; severe headache. Dr. Rothe gave Carbolic Acid and Iodine, with Tr. of Digit. and Tr. of Aconite, every hour, and had wrappings applied, the compresses being changed every $\frac{1}{4}$ hour during the day. On September 20th there was improvement; the evening temp. was 102.2° F.; the pulse 82. On the 21st, the medicine was given without Digitalis. The improvement continued; the temperature and pulse fell steadily.

The tongue assumed in none of the observed cases that dry, brown, hard, and crusty surface, which is usually a constant

symptom in severe cases; and the gastric symptoms subsided at the latest in the beginning of the 2nd week, being followed by moderate appetite, and a feeling of comfort. The effect on the fever seems to take place, sooner or later, between 2 and 10 days, according to the intensity of the infection (general symptoms); and Rothe has, therefore increased the doses a little, *i.e.*, from 1 gramme each of Carbolic Acid, Rect. Sp., and Tr. of Iodine, to 120 grammes of mixture, of which one tablespoonful is given every hour; so that, after 2 or 3 weeks of uninterrupted administration, toxic symptoms always occurred. **Quinine was not given in any case.**

Rothe observes that a comparison of the recited cases of the disease shows that all came under treatment with high morning temperatures (mostly 104° Fahr., and above), and that in all alike, first the pulse, and then the temperature sank, within from two to seven days: the pulse frequently below the normal, without ever rising to its former height, *except when the medicine was discontinued, or given less frequently by way of experiment.* That this remarkable phenomenon is not attributed to the digitalis, he does not doubt; for, in the first instance, he has never seen such a constant and lasting diminution of the pulse from small doses of it, especially in typhus; and, secondly, it was, in all cases, only added to the first bottle of medicine, and was then omitted, and yet the effect was very striking during the later stage, and ceased immediately when the mixture (iodine and carbolic acid) was discontinued. The cold wrappings were continued, in all cases only for a few days, until temperature did not exceed 102·2 Fahr. permanently; and when it is remembered how little they were able, generally, to effect a lasting and sure cessation of the fever—for instance, in two of the first six cases in spite of uninterrupted application* during the three or four weeks—they do not afford an explanation of the uniformity of the course.

* Dr. Rothe usually makes the wrappings permanent. The patient is laid on a wide sheet (reaching from the axillæ to below the knees), which has been wrung out in cold water, and spread over a large woollen blanket; he is then wrapped in both, so that the feet alone are covered directly by the warm blanket. At intervals of ten or twenty minutes, another cloth (also reaching below the knees, but covering the patient only in front) is dipped in cold water and laid over, which remain until evening. By this, the shock is avoided, which is always unpleasant to the patients, and which disturbs their rest. They often continue to sleep quietly during the change of the outer cloth; the temperature is kept from the beginning at a moderate height (30 to 40 deg. Cent.), without any abrupt fall or rise. The envelope is, as a rule, removed during the night.

The assumption of deception, or of accident, would indeed be somewhat forced in nineteen cases, which ran such a uniform course, one after another. **Nothing then remains but to ascribe an intense 'antipyretic' action to the combination of iodine and carbolic acid.** *Whether this occurs in enteric fever only, or also in other febrile infective diseases, remains to be proved.* Dr. Rothe has only had an opportunity of trying it in a case of **puerperal endometritis** with high fever, and *with exactly the same result* (with simultaneous local medication); the temperature and pulse had fallen on the third day from 39·8 deg. Cent. (103·6 Fahr.) and 112 to 37·5 deg. Cent. (99·5 Fahr.) and 68, and did not rise again.

Another peculiarity in the course of the disease must be pointed out. All the patients, after the first days, as soon as the gastric symptoms had subsided, asserted that they felt quite comfortable; and this subjective feeling lasted uninterruptedly to their convalescence. The latter also, in all, went on without disturbance, and without interruption by those troublesome slight relapses, which frequently seem to indicate, in the fourth or fifth week, some recrudescence of the local lesion.

The medicine itself is readily taken by the patients, both children and adults; and, indeed, for weeks; which cannot be said either of quinine or of salicylate of soda. Oil of peppermint completely disguises the disagreeable smell; and gastric or sensorial disturbances, which sometimes attend the use of the abovementioned remedies, were *never* observed. It seems important that the remedy should be given in sufficient quantities (1 to 2 of carbolic acid, and 1 of tincture of iodine, in 120 of water), a tablespoonful being given hourly, until a decided effect on the pulse and temperature is produced, and then every two hours, until apyrexia follows; and it should be continued for three or four weeks. For the last ten years he has used the **combination of carbolic acid with iodine in phthisis, diphtheria, diarrhœa, &c.**, and has never ventured to give up its use.

2. **Treatment by Eucalyptus Oil.**—Of 220 cases of Typhoid treated by Eucalyptus Oil there were 4 deaths only

and of these there was in every case an unfavourable circumstance. It was given on the idea that typhoid fever owed its origin to specific germ and as the Eucalyptus is a disinfectant and germicidal agent, 10 mins. of the oil was given every 4 hours. As it does not agree well with the stomach being nauseous and this difficulty can be entirely overcome by careful emulsification and the addition of $\frac{1}{2}$ dr. each of *Sp. Ammon. Aro*, *Spts. Chloroform* and *Glycerine*, the latter entirely removing the rough semiresinous taste of the oil (*Vide* pg. 261.) The effects of this medicine in brief are the following :—First, it **steadily and permanently reduces the force and frequency of the pulse**. Secondly, the **lowering of the temperature** which occurs less rapidly. Thirdly, it almost immediately **alleviates the distressing dryness** so universal in typhoid and removing the thick dry coating, leaving out proportionately the little fur and frequently cleansing the tongue entirely in a very short time (*Vide* pg. 7). In one case I was called in, it was the 7th day of fever, in a low muttering delirium, with a brown leathery tongue, dry as a board and with bloody sordes on the teeth and lips. I gave him the above mixture every 3 hours and next morning he was well and also tongue clean ; along with that I also ordered an ounce of **whisky every hour in soda water and milk and constant cold packing** as adjuvants to medicine. (?)

3. **Treatment by Naphthol.**—The conclusions regarding the actions and efficacy of naphthol in typhoid fever have already been mentioned at pg. 98 (q. v.), and the following report is an additional testimony for the same :—

On the 28th ult. there came to me a man suffering from well-marked typhoid fever of 10 days' standing. I sent the man home to bed, and ordered him *B. naphthol* in four-grain doses in capsules every third hour. This man's symptoms which were very severe and well-marked, at once began to ameliorate, and he is to-day sitting up convalescent. There can be no doubt about the marked good effect of naphthol in typhoid, and also in summer diarrhoea and dysentery (A. I. Bolton, M. B., A. B., Roumania, June 1890.

4. (a.) (Sp.) Prof. Teissier of Lyons recommends the following treatment :—Morning and evening a capsule of 7 grs. of **Alpha-Naphthol**, with **Salicylate of Bismuth**. (b.) **Sponge** once in 24 hours. (c.) To restore the action of the kidneys after the mid-day sponging erectile injection is given of 1 dr. of the **Ext. of Cinchona** and 8 to 15 grs. of the **Sulphate of Quinine** dissolved in **Sulphate of Valerian**. (d.) The diet is restricted to Bordeaux wine, milk, and broth. The author states that he has employed this treatment in 15 cases of typhoid fever, some of which were of exceptional severity, one case only dying, due to *suppurative nephritis* occurring at the close of the disease. In almost all of these cases complete antisepsis was realized about the fourth day of the treatment, this being recognized by the green tint of the urine, temperature depressed progressively, the albuminuria disappeared, the spleen regained its normal volume, and the tongue became moist and lost its furred condition. After a regular fall of temperature there then occurred a series of marked thermic oscillations, lasting from 4 to 8 days, the patient then passing to the stage of convalescence, a stage of the disease which was remarkably short. He further adds, that through all the duration of the treatment the typhoid aspect was wanting.

(b.) W. A. Fitz Gerald, M. D. also obtained the same good results under the following somewhat modified plan of treatment :—Morning and evening a wafer containing 6 grs. of **Naphthol with Salicylate of Bismuth**. (2.) Four **enemata of cold water** daily, in order to keep up diuresis. (3.) Once daily an enema containing a drachm of **Ext. of Cinchona**, with 10 to 15 grs. of **Quinine** dissolved in **Infusion of Valerian**, as a tonic antipyretic. (4) Diet composed of milk, soup and Bordeaux wine.

Treatment by prolonged immersions in water.—Dr. Barr reports 9 out of 12 cases which he has treated by placing and keeping them in tank. Each tank is provided with a sheet of bed ticking which would allow the patient to be submerged. At the head is a strip a foot wide which does not sink so deeply, and in it rests an air pillow so as to keep the head above water. The patient is wrapped in a blanket, and completely immersed excepting

the head. The tank is covered with half a lid which prevents the weight of bed clothing resting on the patient, a waterproof sheet and bed clothing to keep in the heat of the water. As long as the patient's temperature is over 100° the temperature of the tank need not rise above 99° to 93° , but as soon as the body temperature approaches the normal so should the tank temperature. A fresh blanket is used each day, the urine and fœces are passed in the tank. The diet consists chiefly of milk, no alcohol is given and very little physic. When constipation was present Calomel has been given. One case was kept in the tank for as many as 13 days.

6. *Application of icebags over the supraclavicular regions* during fever is followed by a marked reduction of temperature. In several cases of typhoid fever treated in this manner, the fever was controlled while the sensorium remained clear. The explanation offered is, that many large superficial veins are situated in the neck, and that, by the direct application of heat to them, the temperature of the blood is lowered rapidly.

7. F. 4. **Adynomia.**

8. **Diarrhœa.**—In the case of children the following measures to control the diarrhœa may be tried : (a.) Boiling the milk which constitutes patient's diet. (b.) Boiling Cinnamon in milk and straining it. (c.) Add lime water to the milk in varying proportions ; say from one in four to half and half. These simple remedies are well worthy of trial and are of great advantage in cases of children, of not being bad to take and further, while the patient is taking medicine, he is taking his diet (milk) at the same time. *Vide* pg. 93. In case of adults, the measures mentioned may first of all be tried. If they fail, try *Pil. Plumbi cum Opio*, one every 3 hours till diarrhœa is restrained. Should the purging continue and especially if the desire to go to stool be urgent and persistent, give opium per orem and rectum. *Vide* F. 19. pg. 906 ; F. 4, pg. 903 ; F. 4, pg. 904 ; F. 6, pg. 952 ; Coto 227.

9. **Hemorrhage.**—If intestinal hemorrhage comes on the following measures should be employed : (a.) Ice to suck or ice cold fluids to drink. (b.) Cold compresses or ice to abdomen. (c.)

Hypodermic injection of Ergotine. (*d.*) Cold injection into the bowels. (*e.*) Turpentine, Lead, Resorcine, &c. internally.

10. Alcohol 34, *Antifebrin* 53, *Antimony* 56, *Antipyrin*, *Antiseptin* 752, *Baptisia*, *Bismuth Subiodide* 104, *Chloroform* 169, *Coffee* 207, *Cornus Florida*, *Eucalyptine* 261, *Hydrarg. Oxid. Flav.* 335, *Lemon Decoction* 950, *Menthol*, 489, *Nux Vom.* 513, *Pancreatine* 535, *Phenacetin* 555, *Quin. Hydrobrom.*, *Sanitas Oil* 641. (*d.*), *Sanitas Fluid* 648, *Sodii Salicyl.* 18, *Sodii Sulphis*, *Sumbul*, *Thallin*, *Xanthoxylum*.

11. **Ehrlich Test for Typhoid Fever.**—However satisfactory the isolation of the typhoid bacillus from the feces or blood of a typhoid patient may be to the diagnostician possessing the facilities of a bacteriological laboratory, it must be confessed that it cannot be well adopted as a routine method by the ordinary practitioner, granting that private patients would always be complaisant and permit of the introduction of a hypodermic needle to obtain blood from the spleen. The mass of literature that records the protein phases of this disease, and the acknowledged fallability of all symptoms excepting those of the inflammation of Peyer's patches and the solitary glands, that can, unfortunately, be inspected only when it is too late to benefit the patient, sufficiently attest the desirability of some new method to confirm the diagnosis :—The test consists in preparing two solutions ; one containing 72 mins. of Hydrochloric Acid and 10 grs. of Sulphanilic Acid in three ounces of distilled water ; and the other a freshly prepared half per cent. solution of Iodic Nitrite in distilled water. 25 parts of the first solution and one part of the second are mixed with 26 parts of the patient's urine and the mixture is rendered alkaline by the addition of strong ammonia water. *In urine from a typhoid fever patient a bright orange-red colour appears.*

Dr. Howard Taylor, about a year and half ago, reported a number of experiments that he had made with the test. In urine a mere deepening of color was observed, and while this was usually of brown colour, very rarely a faint reddish tint was discernible. In albuminous urines the red colour was occasionally observed, but almost invariably the patients had high temperatures. Out of a large number of cases of heart disease, only once did the urine give the red reaction.

And once in 6 cases of Chorea the reaction was obtained. In measles the reaction was rather common, but it was absent in diabetes, in acute tuberculosis, and in lobar and lobular pneumonia. The reaction was always obtained in typhoid fever and it is concluded that if the disease has lasted a week the *deep rose-color of the urine* is good confirmatory evidence that the case is one of *enteric fever*. It is to be noted that the diseases that have occasionally given the reaction are not apt to present symptoms that might be mistaken for those of typhoid fever. The value of this test has been lately further confirmed by the report of Dr. Pasteur. In seven cases of genuine typhoid fever the reaction was well marked during the first fortnight, though the test failed in two cases after the end of the third week. In one case of supposed typhoid the test failed, and the necropsy revealed a healthy small intestine, but an ulcerated colon. The test also failed in febricula, pneumonia, purulent peritonitis, and perityphlitis.

The special value of the test seems to be in the early stage of the disease, when the difficulty of diagnosis is greatest. The reaction seems to be due to the ptomaine formed in typhoid fever, and the formation of a similar alkaloid in some other diseases is probably the reason for the occasional result obtained. It might be worth while to make more frequent use of a test that is so easily applied, and that seems always to call forth the characteristic reaction with urine from a typhoid fever patient.

PUERPERAL FEVER.

1. **Prevention of Puerperal Fever** and management of puerperal cases.—Nurses or physicians should be provided with two solutions :—

(a.) **Corrosive Solution** :—Corr. Subl. grs. 154, Glycerine ozs. 2. Of this, one tablespoonful added to a pint of water forms the solution, 1 in 1000, for rinsing the hands.

(b.) **Carbolic Solution** :—Two tablespoonfuls added to a pint makes a 1 in 20 solution.

(c.) **Sublimated Vaseline** (grs. 2 to ozs. 2) or a pomade with 1 part of Ol. Eucalypti to 7 of Vaseline.

First nurse should wash her hands with soap and water, then dip in corrosive solution and then smear her finger with the antiseptic vaseline and then go on making examination. All catheters vaginal tubes, glass syringes, sponges, &c. shall, when not in use, be kept in a 1 in 40 *carbolic solution* (one tablespoonful added to a pint of water) and instruments before being used shall be taken out of this solution and greased with antiseptic vaseline and after being used, thoroughly washed and placed in 1 in 40 solution. To make the patient lie on back as soon as child is born is a good precaution for preventing air entering in ; a firm application of binder acts in same way. Hartman's sublimate wood wool diapers are better than ordinary napkins wrung out of antiseptic solution. When the *pereneum is being dilated*, its stretching may be fascilitated by employing a sponge wrung out of hot (1 in 40) *carbolic solution* and lubricating it with *antiseptic vaseline*.

The use of douche twice a day, of a hot vaginal (1 in 40) *carbolic douche* is most grateful to patient and keeps parts pure and clean. The *sublimate douche* should be reserved for cases where hand had been introduced into uterus (*operative midwifery* or in cases of *foetid discharge* from something decomposing in womb ; and in such cases 1 in 2000 corr. subl. should be used, and in giving corrosive douche, care should be taken to press with one hand over uterus and with other hold *pereneum* back, in order to avoid leaving any fluid behind. After labour to aid in contraction of uterus give Quinine, Ergot and Digitalis mixture.

2. Acid Boric 108, *Helenin* 324, Hydrochinon, Manganese Dioxide 476, *Resorcine* 606 and 611, Sodii Hyposulphis, Sodii Sulphocarbolas, Thallin.

SCARLET FEVER (SCARLATINA).

1. R Pot. Chlor, grs. 4, Ipecac. gr. $\frac{1}{2}$, Ext. Aconiti Alc. gr. 1/12. M. ft. pil. One pill frequently repeated (every 2, 3 or 4 hours) until active diaphoresis is established.

2. Antifebrin 51, Antipyrin, Capsicum 141, *Eucalyptine* 261, Kairin, Manganese, Menthol, Phenacetin, Sanitas Fluid 648, Sierra Salvia 658, Sulphur 699, Xanthoxylum.

FIBROID TUMOURS.

Ergotin 249, Hydrastinine 351, Ichthyol, Ustilago Maidis.

FISTULÆ, SINUSES, &c.

1. **Injection of Oil of Turpentine** has been suggested by Dr. S. Cecheni for the cure of fistulæ. Cases of *anal fistula* in connection with *carious bone*, *fistula* in connection with the *teeth*, *fistula* of the *duct of Steno*, and *atonic fistulæ* of various kinds have been treated with good results. The reason of the employment is that *Oil of Turpentine* is a powerful *stimulant of granulations* on one side, and on the other hand, is an *antiseptic*. A *permanent cure* was stated to have *resulted* in a large number of cases. The injection was repeated several times at intervals of 3 days. *Syringes with blunt nozzles* are employed and then the orifices or openings of the fistulas to be closed with the *finger* after the injection has been made, so as to ensure thorough contact. The *pain* produced is *slight* and is quite *bearable* although if necessary *Oil of Turpentine* may be diluted with *Olive Oil*.

2. Dr. Lowe has employed successfully solution of Chromic Acid in sinuses.

3. F. 2. **Glandular Enlargements.**

4. Iodoform 390, Resorcine 611.

FISSURES.

1. First evaporate an ounce of Succus Conii until drs. 2 remain, and then mix this up with 6 drs. of Lanolin. It relieves pain of rectal ulcers, rectal fissures and pruritus ani, even when Cocaine fails. It gives relief in vaginismus and painful condition of male urethra and is a good lubricant for catheters, allowing them to pass into sensitive urethras. In cases of fissures, add 12 grs. of Persulphate of Iron, which heal completely giving no necessity for knife or cautery. It is also effective for piles, to relieve pain.

2. Hydrastis 344, Menthol, Phytolacca.

FLATULENCE.

1. Sulphocarbonate of Soda is very useful, especially when there is great distension. If it occurs immediately after a meal, 10 or 15

grs. of the Sulphocarbolate of Soda should be taken just before food. If some time after meals, the same dose should be taken half an hour after food (Dr. Sydney Ringer). Usual water solution is made in ratio of $1\frac{1}{3}$ oz. to pint of water.

2. Acid Carbol Pur. gr. 1, Pulv. Althæol gr. 1, Ext. Glycer-rhizol grs. 3. M. ft. pil., to be silvered. One t. i. d. before meal (Dr. W. Heath).

3. F. 1. **Colic.** F. 10. **Constipation.** F. 5. **Alcoholism.**
F. 1. **Dyspepsia.**

4. *Amyl Valerianate* 751, **Carminatives** (q. v.), *Papain* 539 (b.), Pot. Permanganate, Senna Pods 655, Trumpet plant.

FRECKLES, SUN BURNS, &C.

The cutaneous discoloration known as Freckles may be considered under 2 heads viz. summer or temporary variety (**Ephelis**) and the permanent kind (**Lentigo**). The darkening of the under surface of the epidermis in Ephelis occurs either in small ovoid patches (**summer freckles**) or extended over a larger surface (**tan or sunburn**); while with lentigo, the brownish discolorations are at a greater depth and remain *in situ* after the covering epidermis is completely removed. Commencing with the mildest form, the following are the formulæ :—

1. **Sun Burn Lotion** :—R Acid Citric dr. 1, Ferri Sulph grs. 18, Camphoræ q. s., Aquæ Flor. Sambuci ozs. 3.

2. R Hydrochinon grs. 48, Acid Phosph. Glac. grs. 30, Glycerine drs. 2, Aquæ Dist. ozs. 6. M. A wash for the skin.

3. **Albadermine** :—Under this empirical title is a process of removing tan and milder varieties of freckles :—

Solution A.—R pot. Iodi drs. 2, Iodine grs. 6, Glycerine drs. 3, Inf. Rosæ ozs. 4.

Solution B.—R Sodii Hyposulphitis ozs. $1\frac{1}{2}$, Aquæ Rosæ O. F.

First apply with pencil solution A, to the tanned or freckled surface, after 15 or 20 minutes, apply B with a piece of cloth, squeeze out liquid and wipe and again apply until stain of iodine disappears.

4. R Hydrarg. Bischlorid. grs. 6, Acid Hydrochl. Dil. dr. 1, Aquæ ozs. 4, Alcohol ozs. 2, Aquæ Rosæ ozs. 2, Glycerine oz. 1. M. Apply at night and wash off with soap in the morning. For removing freckles.
5. R Ammon. Chloridi dr. $\frac{1}{2}$, Lavender Water drs. 2, Aquæ Dist. half a pint. Applied with a sponge two or three times a day. For Freckles.
6. R Hydrag. Bichl. grs. 12, Acid Hydrochl. pur. drs. 3, Fruct. Amygd. Am. ozs. $1\frac{1}{2}$, Glycerine oz. 1, Tr. Benzoin drs. 2, Aquæ Flor. Aurantii q. s. For Ephelis and Lentigo.
7. R Cupri Oleas oz. 1, Petrogell Alb. ozs. 3. For more persistent and obstinate Lentigo.
8. Sublimate Soap 892, Iodide of Sulphur Soap 892.

FROSTBITE.

1. R Acid Carbol. mins. 10, Sp. Terebinth. oz. 1, Vaselinī oz. 1, M. Apply on frostbitten parts.
2. R Liq. Ferri Perchl. Venice Turpentine, â â. parts 6, Ol. Bergamoti part 1, Bole Armenian parts 8, Vaselini, Paraffini, â â. parts 50. M. Apply freely to parts.
3. Ichthyol either in solution or ointment of 10 to 20 per cent. strength.
4. Lanoline 456, para 5, Quebracho 591.

FUNGIOUS FLESH, GRANULATIONS, &C.

Alumen Exsic., Cupri Sulph., Resorcine, Sanguinaria 637.

FURUNCULOSIS (BOILS.)

1. Subcutaneous injection of Carbolic Acid is a simple and effectual abortive treatment of furuncles. Incipient furuncles which have not yet suppurated are especially adapted for this treatment. A cure results in these cases without necrosis of connective tissue; in the more advanced furuncles which have formed pus, or even discharging it, no deforming cicatrization follows. The proper strength of the Carbolic Acid is 3 p. c. This mode of treatment is particularly valuable

in the army, because it shortens the time on the sick-list (when it is necessary to put the man on at all), and he returns to duty with a better cicatrix, while many may be treated without going to the hospital. The simplicity of the apparatus required, consisting only of a Pravaz syringe and a small bottle of Carbolic solution, makes it possible to apply the same any where and at all times,—for instance, during manœuvres and on the march (Surgeon Leu).

2. R Tr. Arnicæ Flores drs. 2, Acid Tannic dr. 1, Pv. Gum Acaciæ dr. 1. M. Apply every $\frac{1}{4}$ hour with a camel hair brush until a black coat is formed over the boil and surrounding skin. The pain is relieved and boil is aborted.

3. R Ext. Bellad. grs. 10, Ext. Arnicæ grs. 20, Morphicæ Sulph. grs. 2, Vinolia drs. 4. M. For boils, herpes, &c.

4. Application of Ung. Hydrarg. Nitr. acts as an abortifacient of boils.

5. **Syrupus Sulphatum.**—It contains in solution the Sulphates of Berberine, Quinine, Iron, Potassium and Sodium, with Sulphuric Acid, Glycerine, and Sp. Chloroform. After its ingestion Sulphuretted Hydrogen is formed in the system by the decomposition of the Sulphates, while the bases act as tonics. It acts as a specific for boils. Dose : drs. 4. (Dr. Symonds).

6. Arsenic Sulphide in doses of 1/100 gr. has given more satisfactory results than Calcium Sulphide in the treatment of boils.

7. Hyposulphite of Soda with Chlorate of Potash is also useful internally.

8. F. 6. **Carbuncle.**

9. The following are useful as poultices for hastening the supuration of boils :—(a.) Fruit of Ficus Carica, cut open and heated. (b.) Leaves of Mirabilis Jalapa. (c.) Cataplasma Fermenti. (d.) Mel, &c.

10. Acid Boracic 6, Brucine 119, Calcium Sulphide 133, Camph. Phenique 9, Ichthyol 371, Menthol 491, Pot. Chlorate 575, Resorcine 611.

GANGRENE.

Baptisin, Boroglyceride Soap 891, Chloroform, Creolin, Eucalyptus 259, Helenin, Pot. Permanganate, Sanitas Oil 645, Siegesbeckia 657.

GASTRIC (STOMACH) DISEASES.

Acute, Subacute, and Chronic Gastric Catarrh (Gastritis).

1. **Gastric Catarrh of Children.**—To cure the existing catarrh all *sources of irritation* must be *removed*. This is best done by the administration of an emetic dose of Vin. Ipecac., followed by a draught composed of *Tr. Nuc. Vom.* with *Sod. Bicarb.* in water, sweetened with *Sp. Chloroform*, and taken 2 or 3 times a day. As long as any acidity of the stomach remains, the diet should be of the simplest kind, starches and sugar being avoided. To give tone to the stomach and prevent relapse, digestive preparations of *Iron* should be given. The best is *Dialysed Iron* or if there be tendency to acidity remaining, the *Ammonio Citrate of Iron* with a few grains of *Bicarbonate of Soda*, sweetened with *Aqua Chloroformi*. After a time a change should be made to the solution of *Strychnia* with the *Perchloride* or *Pernitrate of Iron* given directly after meal. During the same period, a mild aperient should be given every few days.

2. (a.) R Hydrarg. Subchl. grs. 2, Sacch. Alb. grs. 5. M. ft. pulv.
One at bed time.

(b.) R Bismuthi Carb. grs. 10, Sodii Bicarb. grs. 10, Pulv. Rhei grs. 3, Pulv. Cinnam. Co. grs. 5. M. ft. pulv. One in milk before each meal. For *acute gastric catarrh*.

3. R Acid Hydrochl. Dil. drs. 2, Acid. Hydrocyan. Dil. dr. 1, Liq. Strychn. dr. 1, Glycerine drs. 4, Aquæ ad ozs. 6. M. A table-spoonful in water an hour before each meal. For *chronic gastric catarrh*. If there be pain or irritability, give also the bismuth and rhubarb powders before meals as above (Dr. Robert Saundby).

4. R Argenti Nitr. grs. 15, Ex. Bellad. grs. 10, Ol. Caryophylli gtts. 10, Ext. Gent. q. s. M. ft. pil. 40. One t. i. d. Very useful in chronic gastric catarrh and diarrhoea, (Frerich).

5. R Argent. Nit. gr. $\frac{1}{2}$, Opii gr. $\frac{1}{4}$, Ext. Hyosc. gr. 1. M. ft. pil.
Useful in the diarrhoea of typhoid fever and chronic gastritis.
Dose : One pill.

6. F. 1. **Blenorrhagia.**

7. Collinsonia 241, Hydrastis 342, Ichthyol 371, Menispermum Can., Nux Vom. 512, Pancreatine 535, Papain 538, Pepsin, Pot. Permang., Pulsatilla 582, Resorcine 608, Saccharine 623, Salol 632, Sodii Benzoas, Sodii Creosotinas 661, Yerba Santa, *Hot Water* 736.

Dietetic Treatment.

(a.) **Acute Gastric Catarrh.**—Milk and lime water in small quantities or better still peptonized milk. If this restricted diet is not acceptable, or the case not sufficiently severe to demand it, the following may be permitted for two days :—

Breakfast.—A cup of cocoa, not to be drunk while hot, or bread and milk. A little boiled fish or a poached egg with one small slice of toast. **Luncheon.**—A cupful of Benger's peptonized food or a custard pudding. **Dinner.**—A little boiled fowl or a stewed sweet bread, with toast ; no vegetables. A milk pudding. No beer, wine, or spirits. Aërated waters if preferred. Fluids to be taken in small quantities. In addition, order the Calomel and Bismuth powders as mentioned under F. 2 (a.) and (b.) pg. 969.

(b.) **Chronic Gastric Catarrh.**—**Breakfast**, 8 to 9 A. M.—If the stomach is very irritable, no hot drinks, such as tea, coffee or cocoa should be allowed, but a cup of cold milk and water substituted. Afterwards cocoa or chocolate may be taken, with very little sugar. Boiled fish, boiled or poached eggs, or a little smoked or salted ham may be eaten with two small slices of dry toast, but fats should be taken very sparingly. No fruits or vegetables or sweets are allowed. **Luncheon**, 1 to 2 P. M.—Two arrowroot biscuits, or small slices of toast ; oysters (with lemon juice, not vinegar) ; a mutton chop ; a slice of cold meat, fowl or game (not high) ; milk pudding ; aërated water. **Dinner** at 7 to 8 P. M.—No soup. Boiled white fish ; stewed sweet breads, tripe, cowheel, calf's feet or head ; lightly cooked beef or mutton, roast or boiled ; fowl or game ; no

pork or veal ; no vegetables except a little well cooked potato ; milk or custard pudding, jelly, isinglass blackmange ; no fruit or pastry ; no cheese. No beer or spirits. Aërated water is the best drink. A glass of claret with aërated water, or a glass of dry champagne, is permissible—no other wine. (By way of medicine, the F. 3, pg. 969, is useful (Dr. Robert Saundby).

GASTRALGIA AND GASTRODYNIA.

1. F. 2. Dilatation of Stomach.

2. *Acid Carbohc*, A. Hydrocyan. Dil., Æther, Allyl Tribrom., Ajowan 31, Amyl Valer. 751, Bismuth, Cerium, Carlsbad salts 146, Cedron 156, Chloroform 168, Cocaine 193, Codeia, Euonymin et Bismuth, Glycerine, Ingluvin 377, Manganese Dioxide 476, Menthol 492, Methylal. 496, Pancreatine 533. Papain 540, Resorcine 608, Trumpet Plant.

DILATATION OF STOMACH.

Simple Dilatation of Stomach in Children and Adults.

1. General principles and methods of treatment are briefly as follows :—(a.) The prophylaxis consists in amending such errors as *premature feeding or improper weaning, and too much or too frequent sucking*. (b.) *Strict regulation of diet or regimen* as mentioned at pg. 972. (c.) Cleanse stomach. (d.) Prevent distension by physical or chemical means. (e.) Combat prevalent constipation (*vide* F. 19, 23 **Constipation**). (f.) Employ **Massage or Mechanical treatment**, *vide* pg. 479 and 919). (g.) In some cases emetics, aperients, absorbents (*vide* pg. 906) or alkalies may be indicated, but it is only in **extreme cases** that **lavage** should be resorted to, by means of stomach pump, with the addition of little *borax*, or *Peroxide of Hydrogen* (*Vide* F. 2. **Gastric Ulcer.**)

2. R Bismuth. Subnitr. grs. $1\frac{1}{2}$, Rhei Pv. gr. 1, Aloes Barb. gr. $\frac{1}{3}$, Creasoti min. $\frac{1}{2}$, Quin. Sulph. gr. $\frac{1}{4}$, Ext. Nuc. Vom. gr. $\frac{1}{4}$. M. ft. pil. One t. i. d. with meals. For gastrodynia and pyrosis depending on gastric dilatation.

3. F. 9, pg. 917 and F. at the bottom of pg. 97.

4. Bismuth. Salicyl. 104, Chamomile 158, B. Naphthol 97, Chloroform 168, Menthol 492, Naphthalin 503, Resorcine 608, Saccharine 623.

5. **Dietary.**—Dietary must strictly be limited to such foods as shall not *by bulk or by decomposition* distend stomach. Meals must be small, if frequent, and must consist of flesh, fish, fowl and finely divided and digestible fats. *Farinaceous food strictly restricted; liquids restricted.* Tea, beer, aerated waters and like forbidden. Small quantities of pure distilled spirit are useful. Vegetable wholly displaced by little lemon juice. Milk is often used too freely in these cases and is especially indicated in young infants, while a dry diet in older children. As peptic glands are reduced or obliterated, artificial digestive means should be used, viz. Lactopeptine and Vin Pepsin, pg. 919, and Pancreatine pg. 532-3.

GASTRIC NEURASTHENIA WITH DILATATION.

1. The patient may take with each meal 5 grs. each of *Salicylate of Bismuth, Magnesia and Bicarbonate of Sodium* in capsule.

2. He may take on going to bed a dessertspoonful of the *compound liquorice powder* (*Vide F. 23, pg. 874*).

3. In cases where the disease has *more advanced* you can employ the following combination :—R *Bismuth. Salicyl., Naphthol a, Carbo-Ligni*, â â. grms. 10. M. ft. charta 30; to be put in capsules, one of which to be swallowed with breakfast or dinner. If there be *severe flatulent dyspepsia and secondary fermentation* in the stomach and intestines, *Magnes. Calcin.* may be added instead of *Carbo. Ligni*. If there be a *tendency to diarrhœa*, give F. 5, pg. 904.

4. Every day he may have a *cold jet douche* applied along the *vertebral column*. The duration of douche should not exceed 15 seconds (if the patient be a lady, douche the feet with warm water); energetic dry friction with a flesh-brush after the douche.

5. Walks in the open air, muscular exercises (opposition gymnastics, fencing, &c.) are beneficial.

6. **Dietary** :—Let there be *seven hours at least between the two principal meals*. If the patient takes three meals a day, the

first should be had at 7-30 A. M., the second at 11 A. M., the third at 7-30 P. M. If two meals only should be eaten, let the first be at 10 A. M. and the second at 7 P. M. Never to eat or drink between meals. Let the diet consist largely of eggs, cereals, starchy foods generally, green vegetables, and fruits. (*a.*) The eggs to be but little cooked (creams, custards). (*b.*) The starchy foods to be thoroughly cooked (mashed potatoes, stewed beans, lentils, revalesciere, racabout, lactated farina, panada, rice in all its forms, macaroni, biscuits, buns, hominy, oatmeal, &c.) (*c.*) The vegetables should also be well cooked (boiled, mashed carrots, turnips, peas, cooked salads, spinach, &c.) (*d.*) The fruits should be stewed, with the exception of strawberries and grapes. Use toasted bread instead of plain bread.

Eschew from the dietary, game, fish, molusks, crustaceans, old cheese, as well as liquid foods, and soups that are *too thin*.

To be permitted :—Soups that have been thickened, gruels of various cereals, wheat, rice, Indian corn, &c.

As for drinks, take only a tumblerful and a half of a mixture of light white wine with ordinary water or Alet water ; no gaseous waters ; no pure wine ; no whiskey nor other distilled liquid (Dr. Dujardin-Beaumetz).

GASTRIC ULCER.

1. Acid Carbolic, Bismuth Subiodide 104, Cerevisia Lactis, Chloroform, 168, Cocaine 193. Creasote, Euonymin et Bismuth 270, Iodine 383, *Iodoform* 389, *Iodol*, Menthol, Pancreatine 533, para 2 and 3, Resorcine 608.

2. For lavements of the stomach following are useful:—Sodii Sulph., Chloride, Borate, Bicarbonate, dr. 1 ad pints 2 ; Resorcin 1 per cent.; Boric Acid 1 per cent.; Creasote 1 per cent.

3. Dietetic treatment.—It is the chief treatment of gastric ulcer. Solid food is irritating in two ways, first through the mechanical effect of contact with the denuded surface, and second through the peristaltic action which it excites in the

stomach. The food should therefore be liquid or semi-fluid. *Milk should be the basis of the diet, and should be peptonized* in order to avoid the formation of curds, the only objection to peptonisation being the bitter taste, which may be obviated by the addition of a small quantity of coffee and a little sugar. This should form the exclusive diet for the first week. After this mutton or chicken-broth or beef-tea may be allowed. It is better to give frequently small quantities at a time. If enough nourishment cannot be administered in this way, *nutrient enemata* should be employed, and these must always be resorted to where there is much gastric irritability. (*Vide* pg. 536).

SARCINÆ VENTRICULI AND TORULÆ CEREVISIÆ.

1. R Creolin drs. $2\frac{1}{2}$, Sp. Tenuor mins. 16, Ext. Glycerrhizæ drs. $2\frac{1}{2}$, Glycerrhizæ Pv. drs. $2\frac{1}{2}$, Tragacanth. Pv. grs. 16, M. ft. pil 100. In all gastric conditions associated with *abnormal fermentation*. Vide para 3, pg. 972.
2. Acid Sulphurous, Glycerine 303, Menthol, Naphthalin 503, Pancreatine 533, Pot. Permang. 551, Resorcine 608, Saccharin 623, Sanitas Fluid 649, Sodii Hyposulphis, Sodii Sulphis, Sodii Sulphobenzoas.

GLANDULAR ENLARGEMENTS, SWELLINGS, &c.

1. R Pot. Iodidi grs. 2, Ferri Iodidi gr. 1, Iodi gr. 1/10, Ext. Conii gr. 1. M. ft. pil. One t. i. d., soon after food. Useful in scrofulous and strumous affections of the glands in cachectic subjects, (in constitutional syphilis, affecting the bones and periosteum, also in chronic rheumatic arthritis. (Dr. Buckler).
2. (Ind.) R Resin grs. 40, Catechu, Cupri Sulph., Bole Rubra (Geru, *Guj.* ; Red Chalk, *Eng.*), â â. grs. 16, Alumen grs. 24, Soap Stone (Sankha Jirun, *Guj.*) grs. 36, Butter drs. 2. M. ft. ung. For swollen glands and fistula.

3. (Ind.) R Bole Armenean, Nigella Sat. seeds, â â. equal parts.
Powder and make a paste with juice of *Ocimum Basilicum*
(Guj. Sabajo). To be applied on glandular swellings.

4. Acid Osmic 14, Borax 108, Cadmium Oleate 516, Calc.
Chloride 130, Calc. Sulphide 133, Ferri Bromide. Friedrichshall
Water 289-90, Fucus Vesicul 292, Hydrarg. Oleate 333 and 517,
Iodoform, Iodized Cil 385, Iridin 399, Iodol, Murrhuol, Ol.
Morrhuae, Saccharine 623, Sod. Sozoiodol 671.

Vide **Deobstruents, Resolvents, &c.**

GLEET.

1. R Liq. Hydrarg. Perchl. ozs. 2, Sodii Iodidi dr. $\frac{1}{2}$, Liq. Mor-
phiae drs. 4, Sodii Bicarb. drs. $1\frac{1}{2}$, Zinci Sulph. grs. 10,
Aquæ ad ozs. 6. M. ft. injectio. For gleet.
2. R Acid Nitric Dil. mins. 5, Dec. Cinchonæ Fl. oz. 1. M. ft. inj.
For **chronic gleet**.
3. R Bismuth. Subnitr. parts 90, Acid Salicyl. parts 4, Acid
Tannic parts 6. M. To be used dry in cases of **localized**
gleet.

4. F. 1. **Blenorrhagia**. F. 1. **Spermatorrhœa**.

5. Bals. Peru, Bayberry, B. Naphthol 100, *Bismuth Oleate*
516, *Cantharis*, *Chimaphila*, *Collinsonia*, Copaiba, Creasote, Ergot,
Ferri Perchl., *Grindelia Rob.* 311, *Hydrangea*, *Hydrastis Can.* 349,
Kava 436, *Liq. Santal.* *Buchu et Cubeb*, *Manzanita*, *Pinus Can.*,
Piper Nigr., *Stillingia* 686, *Vaccinium Cras.* 717.

Vide **Gonorrhœa**.

GLAUCOMA.

Chloroform, *Eserine* 562, *Pilocarpine* 409, Pot. Bromide.

GLOSSITIS.

1. Cases of *chronic superficial Glossitis*, due to excessive smoking
and drinking, often combined with syphilis were cured by 10 grs.
solution of *Chromic Acid* painted on the sore areas of the tongue 3
or 4 times a day. Some cases of chronic superficial glossitis where
slight ulceration and renewed inflammation has occurred, improve

quickly under its influence. Other cases of glossitis in which the tongue surface is attacked by a *fresh inflammation of great severity*, so far from improving, appear actually to be rendered worse by chromic acid. *Glycerine of Boracic Acid* and soothing remedies are more suitable for such conditions. The strength in which Chromic Acid has been almost invariably employed is 10 grs. to 1 oz. of water. In a few instances 15 grs. have been ordered. The patient has been told to paint the diseased portions of the tongue 3 or 4 times a day with a camel hair brush. Pain or discomfort from the application has been seldom complained of.

2. R Cinchonidine grs. 5, Tr. Ferri Perchl. mins. 20, Aquæ oz. 1.
M. Give every 3 hours.

3. Acid Boracic 7, Papain 542, Pot. Chlorate 574.

GONORRHOEA.

1. **Treatment of Acute Gonorrhœa.**—Proceeding on the admission that the disease is due to a *micro-coccus*, which is readily destroyed by weak solutions of *Corrosive Sublimate* and that local inflammations may be prevented or arrested by frequent small doses of *Tartar Emetic*. An urethral injection as hot as can be borne consisting of 1 part of *Corr. Subl.* to 15000 was given every hour. The treatment was continued for a week, the strength of injection being gradually increased to 1 in 5000 and *Antimony* given at longer intervals. A severe and acute case was much relieved and cured by this means. Surg. Major Laurie regards these means as little less than specific in acute gonorrhœa and he says the injection should be as hot as possible.

2. Place the patient in a recumbent posture, lubricate an ordinary soft rubber catheter with 5 per cent. *Carbolized Oil* and introduce it as far as the prostatic portion of urethra; now insert it into the free end of the catheter, an ordinary glass syringe filled with *Boracic Acid* drs. 3 and *Glycerine* oz. 1; pour about 2 drs. of this mixture into the syringe and force it into the catheter and allow it to pass well into the urethra and let patient in the same recumbent posture for 10 minutes longer. Repeat this daily for the first 2 or 3 days and then on each alternate day. As a rule in acute

attacks 5 or 6 sittings will suffice. In long standing cases the same treatment should be used ; alternating with same, mild astringent injection used in the same way. *The sound should always be used in subacute and chronic cases, at intervals of about 3 days and in old cases the balsamic treatment with saline laxatives.* In acute cases before introducing the rubber catheter, it may be necessary to inject a little 5 per cent. solution of Cocaine if pain is produced.

3. (Sp.) **Treatment with Nitrate of Silver.**—(a.) **Unna's Treatment.**—It consists in the introduction of tin bougies, properly curved and coated with an ointment which dissolves only at the temperature of the body. His routine ointment consists of:—

Cacao Butter ozs. 3, Ceræ Flavæ grs. 30 to 60, Argenti Nitr. grs. 15, Bals. Peru grs. 30 to 60. M.

He allows the bougie to remain in the urethra from 2 to 15 minutes. The ointment melts wholly in 2 minutes and fills the entire lumen of the urethra. Larger bougies are gradually introduced, until complete removal of stricture has been accomplished. The so called Swift's vectores are a decided improvement on Unna's bougies as they consist of soluble bodies without any metallic axis.

In place of tin bougies, you can use the sound as follows:—*First warm the sound and then coat it with the above ointment by drawing it through the mass, which solidifies promptly upon the surface of the sound and melts again when introduced into the urethra.* 41 cases in which there was a *pronounced urethral contraction* as a result of *chronic Genorrhœa*, were treated in this manner, and the majority were cured in from 4 to 6 applications.

(b.) R Argenti Nitr. 1 grm., Cocaine Nitr. 1 grm., Aquæ Dist. 50 grms. M. This does not produce pain when used as an injection in gonorrhœa. The canal is to be washed out with a 4 per cent. boric solution before and after injection.

(c.) Recent experiments prove Inject. Argenti Nitr. 1 in 20,000 give best results.

4. (Sp.) Dr. Radha Nauth Roy extols the efficacy of **Injections of Quinia in Gonorrhœa.** He states:—"I was once tempted to try it in a case of acute gonorrhœa, where *scalding was unbearable*

and discharge profuse, and to my utter surprise, after the third day, I found the man quite relieved. He described to me the soothing effect of the injection as something cold, like ice. The discharge was so much diminished that his clothes were scarcely stained after the third day. There was no more incessant desire to void the bladder, and he was to all appearance comfortable. My success in this case made me bold enough to use it in other cases, and I have invariably found the disease yield both in its acute and chronic stage under its influence. It acts as a tonic and astringent to the mucous membrane of the urethra. I have also used it in some cases of *cystitis with much benefit*. I generally use it *dissolved in sulphuric acid, diluted, mixed with rose-water*. Two grains of quinine sulph. dissolved in acid sulph. dil. mins. 8 or 10 and mixed with an ounce of rose-water; to be used twice for injection. At the same time I gave **copaiba mixture** to my patients. In almost all the cases I have found it act like a charm. The disease is generally cured within a week, but chronic cases take a longer time. In a few acute cases it took more than a fortnight, but the delay in them was attributable to their irregular habits during the treatment."

5. (Sp.) R Liq. Hydrarg. Perchl. dr. 1, Zinci Sulph. grs. 2, Vin. Opii mins. 10, Aquæ ad. oz. 1. M. An ordinary harmless and effective injection for gonorrhœa.

6. R Acidi Carbolici grs. 8, Acidi Tannici grs. 8, Glycerini oz. $\frac{1}{2}$, Aquæ oz. 1. Used as an injection, twice daily; internally, a mixture of Pot. Bicarb., Hyoscyamus and Decoct. of Broom; usually cures in 9 or 10 days (G. Ashmead, L. R. C. S.)

7. **Salol** diminishes the discharge, lessens pain and inflammation. It is well supported in doses of from 60 to 75 grs. daily. It is also of service in **gonorrhœal rheumatism**. (*Vide* pg. 633).

8. R Ol. Copaibæ Min. 1, Cubebæ grs. 2, Terebinth. Alb. q. s., Ferri Sulph. gr. $\frac{1}{2}$. M. ft. pil. Give 2 or 3 t. i. d. As efficient and less objectionable than capsules of copaiba. For **gonorrhœa and glass**.

9. R Ol. Copaibæ, Ol. Cubebæ, Ol. Santal Fl., â â. min. 1, Ferri Sulph. gr. 1, P. Cubebæ grs. 3. M. ft. pil. To be coated with gelatine. One or two t. i. d.

10. **Copaiba Paste.**—R Cubebæ Pv. ozs. $1\frac{1}{2}$, Bals. Copaibæ oz. $\frac{1}{2}$, Ext. Hyosc. dr. $\frac{1}{2}$, Camphoræ dr. $\frac{1}{2}$, Theriacæ q. s. M. Dose : A piece the size of a nut (filbert) 3 or 4 times a day.

11. (Ind.) R Alumen Pv. grs. 10, Cubebæ Pv. dr. 1. M. ft. pulv. Give t. i. d. with water.

12. (Ind.) Alumen grs. 10, coloured with Bole Rubra and given with water twice a day. During its course milk is prohibited from the diet.

13. (Ind.) R Bambusa Arundinacea (Váns Kapura) grs. 24, Ol. Santali q. s. to make a pill mass. Ft. píl. 12. Give 1 to 2 pills t. i. d.

14. F. 1, **Blenorrhagia.** F. 1, **Spermatorrhœa.**

14. **List of Urethral Injections for Gonorrhœa :—**

MEDICAMENT.

STRENGTH.

Acid Boric	... ..	grs. 5 to oz. 1 of water.
Acid Carbolic	... ..	1 to 40 or 60 of water.
Acid Sulphurous	... ..	1 to 15 of water.
Acid Tannic	... ..	grs. 5 to oz. 1 of water.
Alumen...	... ..	" "
Argenti Nitr	... ..	1 in 20,000 to 2,000 of water.
Beta-naphthol	... ..	vide page 100.
Bismuth Oxyiodide	... ..	1 in 100 of water.
Bismuth Subnitr	... ..	1 in 10 of Glycerine (vide pg. 103).
Chloral Hydrate.	... ..	grs. 3 to oz. 1 of water.
Cocaine.	... ..	vide pg. 192.
Corrosive Sublimate	... ..	gr. 1/16 to oz. 1 of water.
Creolin	... ..	5 per cent. solution.
Ext. Hamamel. Fl.	... ..	vide pg. 320.
Ext. Pinus Can. Fl. (Kennedy)		
white	... ..	1 in 8 of water.
Hydrarg. Nitr. Liq. Acid	... ..	1 min. in ozs. 2 of water.
Hydrastine	... ..	vide pg. 349.
Iodoform	... ..	vide pg. 390.
Iodine Trichloride	... ..	vide pg. 385.
Liq. Ergot. Purif	... ..	vide pg. 246-7.

MEDICAMENT.— <i>continued.</i>				STRENGTH.— <i>continued.</i>	
Plumbi Acet	...	...	...	grs. 3 to oz. 1 of water.	
Pot. Chlorate	...	...	...	grs. 5 to 10 to oz. 1 of water.	
Pot. Permanganate	...	...	...	<i>vide</i> pg. 552.	
Quiniæ Lactas	...	...	...	<i>vide</i> pg. 595.	
Quiniæ Sulph	...	...	...	grs. 2 to oz. 1 of water.	
Quinoline	...	...	...	1 in 500 of water.	
Resorcine	...	...	...	<i>vide</i> pg. 610.	
Sodii Fluosilicate	...	...	...	1 in 1,000 of water.	
Sodii Salicylate	...	...	...	grs. 5 to oz. 1 of water.	
Thallin	...	...	...	<i>vide</i> pg. 706.	
Zinci Chloride	...	...	...	gr. $\frac{1}{4}$ to $\frac{1}{2}$ to oz. 1 of water.	
Zinci Salicylate	...	...	...	$\frac{1}{2}$ to 1 per cent solution.	
Zinci Sozoiodol	...	...	...	1 in 50 of water.	
Zinci Sulphocarbolate	...	...	...	grs. 2 to oz. 1 of water.	

15. Other external and internal remedies :—*Asteracantha* L. 76, *Bals. Canadens.*, Bayberry, *Betol* 101, *Buebu*, *Cannabis*, *Collinsonia* 211, *Ergot* 246-7, * *Corechorus* Hum., *Eucalyptus* 263, *Gurjun Balsam* 316, *Hamamelis* 320, *Kava-Kava* 435-6, *Manzanita*. *Matico*, *Ol. Bismuth* 516, * *Pinus Longifolia*, *Rhus Aro.* 667, *Salix Nigra* 629, *Salol* 633, *Stigmata* M. 682, *Stillingia* 686, *Styrax* Prep., *Thallin* 706, * *Tribulus Terrestris*, *Uva Ursi*, *Water Melon* 737.

GONORRHOËAL RHEUMATISM OR BLENORRHAGIC ARTHRITIS.

Salicylic Acid and other remedies which act beneficially in ordinary rheumatism are found to be *inefficacious* in blenorrhagic swellings of the joints. Barlow, in 1860, was the first to enunciate that gonorrhœal arthritis is a form of *pyæmia*, *generally mild* (it is true), but sometimes appearing in a severe and intractable form. He further insists on the fact, now generally recognized by pathologists, that the joint-complications of gonorrhœa are not produced by rapid suppression of the urethral discharge, for it is in long-standing cases that such trouble arises. The disease being a

* Indian.

manifestation of blood-poisoning, should be treated energetically by *Quinine*, which he regards as the best antiseptic for the purpose. He would prescribe in ordinary cases, 10 grs. every 4 or 6 hours, and, where there is *much effusion with distension of the joint*, he would aspirate or antiseptically puncture the joint with piston-trocar and hydraulic tube.

Gonorrhœal arthritis, then being *a form of septicæmia*, should evidently be treated as such. The best success seems to have attended the *free use internally of Quinine*, with or without Tr. Ferri Perchl., such *anodynes* as might be needed for the relief of pain (and here it may be said that Refat, lately, speaks highly of *Phenacetin* in 10 gr. doses every 3 hours till a drachm has been taken, this medication to be continued several days), and, lastly, the proper *local treatment by revulsives or blisters, splints and aspiration*.

We are to use **revulsives or blisters** repeated as many as 3 times at intervals of 2 or 3 days. *When effusion is abundant* we should not hesitate to **puncture the joint**, relieving at once of a mass of liquid which requires at least 2 or 3 weeks for its absorption.

Foyer, of Calcutta, was one of the first to advocate **paracentesis** of the joint in both chronic and subacute forms, care being taken to exclude the air by carefully closing the puncture and fixing the joint on the splint.

Dr. Henry O. Marcy gives the details of 14 cases which he had **aspirated**; all did well and in all there appeared to be a marked shortening of the affection. In most of these cases the fluid withdrawn was serous, sero-sanguinated, not purulent. It was generally necessary to reaspirate after a couple of days; sometimes numerous aspirations were made, but generally not more than 2 or 3 were required. The *relief* obtained by drawing off the fluid was in all instances *instantaneous*. The knee-joint was generally bandaged and fixed to a plaster splint after the aspiration. With few exceptions the No. 1, or smallest-sized needle, was used. Since the presentation of this report, Dr. Marcy has aspirated the knee-joint eighteen times, and twice injected and washed out the synovial cavity with Carbolic Acid. The results of all these cases were good, no ankylosis or stiffness following.

Other surgeons in aspirating the knee-joint for this affection have found it necessary to use one of the larger-sized needles; the smaller needles are almost certain to be stopped up by blood clots during the operation. *Aspiration* seems to do good in this affection, not merely by *relieving local tension and pain*, but by *promoting absorption*. This is the almost uniform testimony of those who have resorted to this mode of treatment of gonorrhœal arthritis.

Dieulafoy in 1878, reported that he had aspirated the knee-joint 200 times. He believed the operation to be a safe and efficient one in a large class of cases. He uses the No. 2 needle, first placing a rubber bandage around the knee, leaving uncovered the place of puncture. This point of election is the external cut-de-sac of the joint, on a level with the upper border of the patella, and about 10 centimetres outside of this bone. *Compression* is used as soon as the fluid is evacuated by a *flannel bandage* applied from the foot up to the thigh. This is removed in 24 hours, and, if fluid has collected, it is reaspirated.

2. Recently Schüller has published his mode of treating blenorhagic arthritis. The general treatment consists in the administration of **Iodide of Potassium** in frequently—repeated doses, 5 to 7 grs. every 2 hours for 2 or 3 days. The Iodide, he says, is especially beneficial in all forms of this disease whether acute, subacute, or chronic, but particularly in the *acute forms*. For local treatment, he employs in **acute cases compresses**, wet in a cold **Carbolic Acid** solution, 1 to 100, and in **chronic cases mercurial ointment**, *with immobilization of the limb*. Where there is an abundant effusion in the joint, he would aspirate. Aspiration promptly aids the effects of the Iodide of Potassium.

2. R Hydrarg. Bichloridi grs. 2, Sodii Chloridi grs. 15, Aquæ Dist. ozs. $1\frac{1}{2}$. M. Of this solution enough should be injected every 3 days in the neighbourhood of the affected joints to amount to $\frac{1}{6}$ gr. of the Corrosive Sublimate.

3. MacLagan obtains the best results by administering Pot. Chlorate grs. 10 and Liq. Ferri Perchloride mins. 20, in an ounce of water, every 3 hours.

(4.) Ol. Pini Pumilionis 526. (5.) F. 7. **Gonorrhœa**, pg. 978.

GOUT.

1. (Sp.) If uric acid is the poison, the treatment of rheumatism and gout resolves itself into this: to prevent formation of this substance and when formed to promote its elimination from the system. The kidneys will in time effect the latter if we satisfy eliminating *glycogen* from the system, because this is an essential constituent of uric acid and by removing it we prevent further formation of that body. In gout this may be effected in some measure by **Benzoic Acid**. Benzoic Acid seizes upon the *Glycoccine* or its antecedent and so prevents the formation of uric acid; it passes out of the urine as hippuric acid and gouty patients undoubtedly derive benefit from its use. Dr. Golding Bird prescribed it, in conjunction with **Phosphate and Carbonate of Soda**, with *Cinnamon water*, as a vehicle in gout. Dr. Garrod has derived great advantage in the treatment of gout and gravel from the use of benzoates. The remedy must be given in large doses, sufficiently large enough to absorb all the glycocine. *Salicylic Acid* is another remedy which acts like benzoic acid. In gout, *uncomplicated with contracted kidney or albuminuria*, salicylic acid is often of service. In earlier attacks of gout marked relief is followed by *Calomel* and a *cathartic*. Colchicum is best in gout and seems to act best when the bowels are previously acted upon. It paralyses the sensory nerves, the motor nerves and muscles being unaffected. If in gout then uric acid is stimulating the sensory nerves and we paralyse these nerves by Colchicum, the uric acid no longer produces its effects and paroxysm ceases; but Colchicum has no effect in preventing formation of uric acid and after paroxysm we must endeavour to prevent recurrence by putting a stop to formation of poison by eliminating bile from intestines by mercurial or other purgatives and by giving Benzoic or Salicylic Acid and suitable diet (P. W. Latham, M. A., M. D., F. R. C. P.).

2. (Sp.) **Diuretic Treatment with Water.**—The diuretic action of water drunk by a healthy man is perhaps the most marked. It has the power of increasing tissue change and thus multiplying the products of tissue waste which result from it, but it removes those waste products as fast as they are formed and thus,

by giving rise to increased appetite, provides fresh nourishment for the tissues and thus acts as a true tonic. In persons who are accustomed to take too little water, the product of tissue waste may be formed faster than they are removed and thus accumulating may give rise to disease. If water be freely drunk by such persons, the product of waste will be removed and health maintained and restored. Thus many gouty persons are accustomed to take little or no water except in the form of a small cup of tea or coffee daily, besides what they get in the form of wine or beer. In such persons **a large tumbler of water drunk** every morning, and especially with the addition of some **Nitrate or Carbonate of Potassium**, will prevent a gouty paroxysm.

3. (Sp.) R Pot. Bicarbon. grs. 12, Ext. Guaiaci Sancti grs. 5, Ext. Barosmæ Betul. Fl. mins. 10, Tr. Citrus Vulg. Co. mins. 30, Decoct. Sassafras Off. ad. ozs. 2. M. Take t. i. d. from 10 to 20 minutes after food, or in severe cases it may be taken every 3 or 4 hours. It is the best remedy for gout in all its forms, rheumatic gout and rheumatism. Three or four doses will often remove the most severe pain in the course of a few hours. If there be constipation give a mild aperient; when continued for some time it gives permanent relief (Henry T. Lait.)
4. (Sp.) R Ipecac. P_v. gr. $\frac{1}{2}$, Strychniæ gr. $\frac{1}{24}$, Podophyllin gr. $\frac{1}{8}$, Euonymin gr. $\frac{1}{2}$, Ext. Taroxaci q. s. M. ft. pil. One pill t. i. d. These pills should be given for a prolonged period with *Sulphate or Phosphate of Soda*. Occasionally a *Mercurial Pill* will be beneficial. This raises the functional activity of the liver and prevents gouty attacks. During the treatment occasional use of *Lithia or Potash Water* is beneficial, with exercise in the open air.
5. (Sp.) R Calcii Sulphidi gr. 1/10, Guaiaci P_v. grs. 4, Ext. Rhei gr. 1, M. ft. pil. 1 t. i. d. For **aged persons** suffering with gouty and rheumatic pains.
6. R Hydrag. Subchl., Ext. Colchici Acet., Ext. Aloes, Ipecac., â â. gr. 1, M. ft. pil. Two pills for the first dose, and one, repeated every 4 hours, with a dose of **Mistura Alba**, until the bowels

are thoroughly acted upon, will afford speedy relief. A useful medicine in *acute gout and rheumatism*. It acts as a powerful cholagogue and hepatic purgative, relieves abdominal congestion, &c. *Vide F. 3. Hepatic Congestion.*

7. (Sp.) R Colchicine gr. $\frac{1}{2}$, Lithiæ Bromidi grs. 64, Sp. Ammon. Aro. ozs. 4. M. 1 to 4. drs. in half or a whole bottle of aerated water (Soda or Seltzer). An agreeable mixture readily taken by the patients at their meals. For *gout and rheumatic gout*.

8. **Sir Henry Halford's Gout Pill**:—R Ext. Calchici Acet. gr. $\frac{1}{2}$, P. Doveri gr. 1, Ext. Coloc. Co. gr. 1. M. ft. pil. One pill night and morning, so as to ensure good action on the bowels and kidneys. For gouty and rheumatic subjects. If taken for a week or 10 days, a saline aperient—*Esculap or Hunyadi Janos Water*—may with advantage be ordered to be taken, fasting, on alternate mornings.

9. R Mangesii Sulph. Exsic. gr. 1, Podophyllin gr. $\frac{1}{4}$, Fellis Bovis grs. 3. M. ft. pil. One t. i. d. For **disordered digestion of gouty subjects**.

10. **Mistura Alba**.—R Magnes. Sulph. drs. 6, Magnes. Carb. Pond. dr. 1, Vin. Colchici dr. 1, Tr. Aconiti mins. 12, Glycerini dr. 1, Aquæ ad ozs. 6. oz. 1. t. i. d. In acute cases every 4 hours. An *old favourite recipe for acute gout and rheumatism*.

11. R Sodii Bicarb. dr. 1, Sodii Chloridi grs. 4, Sodii Sulph. grs. 10, Magnes. Sulph. grs. 3, Ferri Sulph. gr. $\frac{1}{4}$ to 1, Aquæ ad O. 1. M. An imitation of, or artificial, **Vichy water, for chronic gout**.

12. R Sodæ Tartaratæ dr. 1 to drs. 4, Lemonade a glassful. M. Dr. Bouchardlat's laxative to be taken every morning by gouty patients in place of natural mineral waters.

13. R Ess. Lavandulæ dr. 1, Tr. Benzoini Co. drs. 2, Pot. Carb. drs. 4. M. To be added to the *bath of gouty persons* once a week. (Dr. Bouchardlat).

14. (Sp.) R Ung. Hydrarg. Cinerii drs. 2, Ol. Hyoscyami oz. 1, Ext. Aconiti dr. 1. M. Use morning and evening on the painful joints. Used with success for 20 years in *chronic rheumatic gout*.

15. **Anti-Gout Lotion.**—R Vin. Colchici drs. 4. Tr. Opii drs. 4, Sodii Carb. drs. 4. M. Sprinkle on cloths wrung out of hot water and apply on the painful joints in gout.

16. Alkekengi 39, Alnuin, *Ammon. Benz.*, *Armoracia*, *Ammon. Phosph.*, Burdock, Cajuputi Ol., *Calc. Hippurate* 131, *Camphor-Chloral* 134, Carlsbad salts 146, Cedron seed, *Chaulmoogra Oil.* 159, *Chimaphila*, Coffee (green) 206, Colocynth, Coto, Franz Josef Water, Hunyadi Janos Water, *Ichthyol* 368, Iodides, Kava-kava, Lithium salts 465-6, *Menispermum Can.*, *Menthol* 490, Ol. Pini Pumil. 526, Orthosiphon 530, *Phytolacca*, Pini Pumilio Ext., Pot. Citras, Quin. Salicyl. 595, Sal Mineralis (Kirby's). *Siegesbeckia*, Sodii Silicas, *Sodii Hippuras* 663, *Sodii Taurocholas* 667, Sulphur, *Veratrum*, Victoria Ofener Water, *Hot Water Drinking* 735.

17. **Dietetic Treatment.**—Successful dietetic treatment of gout at present is as follows :—(a.) 7. 30, A. M. 10 fl. ozs. *very hot water*. (b.) 8 A. M. *Breakfast* :—Equal parts of weak tea and milk, a small quantity of white sugar, a slice of fat bacon without a strip of lean, bread and fresh butter. (c.) 1 P. M. Pudding, rice, sago, tapioca, macaroni or blanchmange and small biscuits with butter, 10 fl. ozs. of hot water. (d.) 4 to 5 P. M. 10 fl. ozs. of hot water. (e.) 6 P. M. **Dinner** : White fish or fowl (usually boiled) greens, bread, no potatoes, claret 7 fl. ozs. (f.) 8 to 9 P. M. 10 fl. ozs. hot water. (g.) 11 P. M. 10 fl. ozs. hot water.

If he indulges either in meat or game or drinks copiously of claret or omits one or two glasses of hot water, he feels gouty and gravelly next day.

18. **Dietary.**—A. A mixed diet should be adopted, the nitrogenous and saccharine articles being used in limited amounts.

B.—Articles of diet permitted : (1.) All kinds of meat may be used in moderation predominance being given to white meats over those which are highly azotized. (2.) Eggs, fish, oysters and lobsters, if at all allowed, should not be too freely allowed, but sparingly. (3.) Vegetables generally are to be allowed and should have a large share of the gouty ; these are lettuce, chickory, artichokes, cucumbers, cardoons, celery-carrots, parsnips, potatoes, radishes. salads (lettuce, dandelion,

watercresses). (4.) Cooked fruits without much sugar. (5.) Gouty persons *should drink abundantly of water*, as it dissolves effete matters out of the tissues and flushes of the kidneys and is the best of diuretics. (6.) Alkaline waters to be recommended. (7.) Wine drunk sparingly and largely diluted with water; best wines for gouty are old wines containing but little tannin as light Bordeaux or mild pale wines (*vide* pg. 35).

C. Articles of diet forbidden :—(1.) *Highly azotized meats* are venison or wild fowl. (2.) Eggs, fish, oysters, lobsters, if at all allowed, should be in great moderation. (3.) Old cheese to be avoided. (4.) Fatty foods eaten sparingly. (5.) Among the vegetables, spinach, sorrel, cabbage, cauliflower, beans, peas, lentils, mushrooms to be forbidden. (6.) Pickles and condiments used with great caution. (7.) Pastry absolutely discarded. (8.) Malt liquors and sweet wines are veritable poisons to these patients; and so champagne should be absolutely discarded; beers, stout and ale also should be proscribed (*vide* pg. 35-36.) (9.) Tea forbidden; Coffee taken moderately. (10.) The gaseous waters, as Apollinaris and artificial seltzer water also interdicted.

HABIT.

Alcohol Habit.—1. Cinchonidine, *Coca* 178, *Ichthyol* 371, *Jamaica Dogwood* 419, *Kola Nut* 442. F. 4, 6. **Alcoholism.**

Morphia or Opium Habit.—(a.) The following principles are laid down as to the treatment of morphinomania or morphia habit. Help from without in the shape of skilled strong-nursing; control and never remitting companionship are needed in almost all cases. It is better and safer to undergo the short shades of absolute stoppage, than the more prolonged purgatory of tapering off. While this is being gone through, use the *bromides*, *wines*, every form of beef and peptonoids that the stomach or the rectum will retain; *bismuth*, *ice*, and *counter-irritation* for the gastric pain and vomiting; *digitalis* and *strophanthus* for the weak and irregular heart's action. I should now use *paraldehyde* or *sulphonal* to get some sleep for a few nights, but I should not go for long with them. If there is emaciation, I should try Dr. Playfair's recommendation of *mas-*

sage. The great things to aim at are good nerve tone, firm muscles, a brown sunburnt skin, steady occupation, as much fat as can be put on, a sound moral sense all round, strengthened inhibition, and a dominating conviction that the drug is poison in any dose, and under any possible circumstances whatever. (Dr. Clouston).

(b.) *Cinchonidine*, *Coca* 178, *Coffee*, *Jamaica Dogwood* 418, *Nitroglycerine* 510, *Quinine*, *Sparteine* 673, *Sulphonal* 696.

Tobacco Habit.—*Coca* 178, &c.

HÆMATEMESIS.

1. **Pil. Styptic.**—R Ergotin gr. 1, Acid Gallic grs. 3, Ipecac. gr. $\frac{1}{2}$, P. Opii gr. $\frac{1}{4}$. M. ft. pil. One every 2 hours. For hæmatemesis, hæmoptysis and other hæmorrhages.

2. Grain doses of *Carbolic Acid* freely diluted, have proved effective in checking the bleeding from hæmorrhagic ulcers of the stomach. 3. F.

3. F. 8. Hæmoptysis.

4. Blackberry 105, Creasote, Creolin, Gelsemium, Hamamelis 318, Hazeline 322, *Hydrastine*, *Punica Granatum* 584, *Xanthoxyl* 738.

HÆMATURIA.

1. R Ergotin gr. 1, Acidi Gallici grs. 2, Ext. Kramerizæ grs. 2. M. ft. pil. 1 or 2 every hour or two. For renal hæmorrhage, hæmoptysis and menorrhagia.

2. F. 9. Cystitis. pg. 883.

3. Acid Sulph. Dil., Alum, Bistorta, Chimaphila, Geranium 303, Hamamelis 319, Hazeline, Hydrangea 330, Ipecac., Matico, Plumbi Acet., *Punica Gran.* 584, Quinine, *Rhus Aro.* 616, *Ruspini's Styptic* (a solution of Acid Gallic in Alcohol, diluted with rose-water), *Stigmata Maidis*, *Tormentil*, *Uva Ursi*.

HÆMOPTYSIS.

(a.) The hæmorrhage of **early stage** of phthisis. (b.) The hæmorrhage occurring when disease has **fairly advanced** and is *progressing*. (c.) The profuse hæmorrhage of **last stage**.—This is based

on the record of 47 cases. It has certainly been my experience that in the *early stage* of pulmonary consumption a small amount of hemorrhage has been rather beneficial than otherwise. A blood spitting at this period is merely *a method of nature* to alleviate a congested apex. Consequently it is a *congestion we have to combat, not the subsequent hemorrhage*. We see a similar course of events in epistaxis, in bleeding from the bowels, yet no medical man would think of applying astringents and styptics in these latter cases unless the amount of blood lost be very great. On the contrary the painful symptoms are dispelled by the very hemorrhage. But should such an occurrence happen in connection with the lung we are told to give *acetate of lead, gallic acid and other astringents*, a treatment which is *not correct, not yet scientific*. Our best treatment at this period is to attend to the sufferer's general health and condition. Do not restrict him from gentle exercise but not over exert him. One who is ordered to be confined to his bed is also bad. As regards climate, *high localities* are *beneficial* to consumptives. The treatment of severe forms of lung in 2nd and 3rd stage is more difficult to determine. In majority of cases hemorrhage stops spontaneously. Administration of large doses of Gallic or Sulphuric Acid is scarcely a correct treatment ; they have no effect on a remote apical lesion. On the other hand they do harm by gluing up the intestines and so favouring continuance of hemorrhage by increasing arterial tension. Administration of a purgative would be a rational treatment (*vide F. 4. pg. 991*) ; Ipecacuanha is also efficient ; Hamamelis has become a favourable drug (*vide pg. 319*). **Outward applications :** Ice bag placed on chest is valueless, useless and injurious. Application of warmth is recommended with confidence. Apply hot flannels (120° F.) over angles of ribs from summit to base of the thorax *i.e.*, over sympathetic ganglia with speedy and happy results. **Medical Remedies :** Give Opium in physiological doses ; add digitalis, if hemorrhage be profuse, in 15 to 20 min. doses of Tr. By this, excited circulation gets controlled and the patient becomes calm and falls into a much needed sleep. Hypod. injection of 4 mins. of Morphia injection into arm is most useful. I prefer subcutaneous tissue of the chest over the presumed seat of hemorrhage. Where Opium is contraindicated give ergot and Oil of Turpentine, (*vide F. 5. pg. 991.*) the former by mouth or subcutaneously (Seymour Taylor, M.D.).

2. Hæmoptysis of Early Phthisis.—Giving large doses of Gallic Acid or other astringent so soon as hemorrhage occurs is I think a bad one. The remedies often do harm to the stomach and no good to the lung. With the first sign of hæmoptysis absolute rest in bed should be enjoined and it should be maintained for several days, even if the bleeding be slight and does not recur. Next keep the patient warm. Bed room should be airy and well ventilated, but temperature should not be allowed to fall below 60° F. With the object of diminishing the blood pressure in the pulmonary vessels, the *lower extremities should be kept warm* by means of hot flannel or in some other way. Diet restricted to cold concentrated nutritious fluids and *hot drinks and alcohol carefully avoided*. Some ice to suck relieves cough and so helps to maintain rest. *Constipation* in as much as it favors the bleeding should be judiciously *obviated*. Such treatment as this is of utmost importance in all cases and in very many nothing more is required. Should however the hemorrhage be considerable or continue, further interference is called for. *Saline aperient* which will act quickly is now of utmost service and when the patient is not markedly prostrate, the exhibition of a purge at the onset is in most cases indicated. The old fashioned *dry cupping the affected side* is of use. Of internal remedies, mineral, acids in medium doses appear often to be of service. Of the more powerful astringents, which are rarely necessary in the hæmoptysis of early phthisis, Gallic Acid in 20 grs. doses, Alum in 20 grs. doses, with 20 mins. of Dilute Sulphuric Acid are the most to be relied on. They should be given at short intervals—say every hour for a few doses, and then either discontinued or administered much less frequently. Ergot is probably more useful in the arterial hemorrhage of old phthisis than in the form we are now considering. (T. H. Green, M.D.).

3. The non-tubercular and non-cardiac hæmoptysis of elderly persons.—(a.) That there occurs in elderly persons free from ordinary diseases of the heart and lungs a form of hæmoptysis arising out of minute structural alterations in the terminal blood vessels of the lung (b.) That these vascular alterations occur in persons of the arthritic diathesis, resemble the vascular alterations found in osteo-arthritic articulations, and are themselves of an arthritic nature. (c.)

That although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of the heart or of the lungs. (*d.*) That when present this variety of hemorrhage is aggravated or maintained by the frequent administration of large doses of strong astringents, by the application of icebags to the chest, and by an unrestricted indulgence in liquids to allay the thirst which the astringents create. (*e.*) That the treatment which appears at present to be the most successful in this variety of hæmoptysis consists in *diet and quiet, in the restricted use of liquids and the stilling of cough ; in Calomel and Salines ; in the use of alkalies with Iodide of Potassium ; and in frequently renewed counter-irritation.*

4. (Sp.) R Antimony Tart. gr. 1/16, Haustus Saline oz. 1. M. Give every one or two hours. This has been used for the last 30 years in the treatment of hæmoptysis of consumptive patients by Godwin Times, M.D. If the discharge be profuse and immediate effect is required to produce then he gives 40 mins. of Sp. Terebinth. Rect. in a wineglassful of water every 2 hours.

5. (Sp.) Many years ago (in 1852) it was announced that essence of turpentine had been used with great success in spitting of blood (hæmoptysis) in the practice of Dr. Lange of Kœnigsberg, who succeeded by this means in overcoming, in five cases out of seven, persistent hæmorrhage which had defied ergotine, digitalis, acetate of lead, tannic acid, and chloride of sodium. The dose given was fifteen drops, once or oftener, in the course of day.

6. Magn. Sulph. oz. 1, Acidi Gallici dr. 1, Tr. Digital. dr. 1, Ext. Ergot. Liq. drs. 2, Inf. Rosæ Acid. ozs. 6. oz. 1 every 2 or 3 hours. For severe hæmoptysis. (*Vide F. 2, pg. 992.*)

7. R Ext. Ergot. Liq. mins. 30, Magn. Sulph. dr. ½, Acid Sulph. Dil. mins. 15, Aquæ ad oz. 1. M. Give every 2 hours till bleeding (in phthisis) stops.

8. R Ext. Geranii grs. 2, Pv. Opii gr. ¼, Ol. Menthæ Pip. gtt. 1/20, Ol. Res. Zingib. gtt. 1/20. M. ft. pil. Dose : 1 to 2 pills.

9. **F. 1, Hæmatemesis.** F. 4, Epistaxis. **F. 1, Hæmaturia.**

10, Acid Pyrogallie (½ to 1½ grs. in solution or pill), *Antipyrin* 59, *Atropine* 83, *Cactus Grand.*, *Capsicum* 140, *Ergot* 243, *Gossypium*

308, *Hamamelis* 319, *Hazeline*, *Iodoform* 389, *Lanium Alb.* 449, *Pil. Plumbi et Opii*, *Punica Gran.* 584, *Rhus Aro.* 617, *Saw Palmetto* 650, *Yerba Santa* 744.

HÆMORRHAGIC DIATHESIS, AND OTHER FORMS OF INTERNAL AND EXTERNAL HÆMORRHAGES.

1. Essence of Turpentine has been successfully employed by Dr. Abt. in several cases of traumatic hemorrhage in doses of 15 mins.

2. R *Acidi Gallici* grs. 3, *Digit.* gr. 1 *Ergotine* gr. 1. M. ft. pil.
One every 4 hours. For internal hæmorrhage when there is failure of heart power.

3. Infusion prepared from 2 to 30 grms. of *dried root of Bryonia Alba* in 300 grms. of water was found successful in several forms of hemorrhages.

4. R *Colophonium*, Gum Arabic, Charcoal, â â. equal parts. M. A new hæmostatic which promptly checks bleeding.

5. *Antipyrin* 63, *Capsicum* 140, *Digitalis*, *Ergot* 243, *Ferri Perchl.* *Hamamel* 319, *Hazeline*, *Hollarhena* 328, *Hydrastine* 351, *Ichthyol* 372, *Nux Vom.*, *Pot. Chloras* 839, *Quinine*, *Rhus Aro.* 617, *Ustilago Maidis* 717, *Xanthoxylum* 738, *Hot Water* 736.

For other remedies, *vide* **Hæmostatics.** also para 9, pg. 961.

HÆMORRHOIDS (PILES).

1. (Sp.) Dr. J. W. Gerard has used the following method for about 10 years in 200 cases without failure :—

R *Acidi Tannici* part 1, *A. Carbolic* parts 2, *Alcohol* parts 4, *Glycerini* parts 8. M. Each pile is injected separately and in a few days they slough away and heal kindly under dressings of carbolated cerate. If there be much constitutional disturbance Dr. Gerard controls this with a steam bath or hot sitz bath. The hemorrhoids are injected with an hypodermic syringe.

2. (Sp.) First wash out the hæmorrhoids with a two per cent. solution of Carbolic Acid or a one per cent solution of Creolin ; then after drying with absorbent cotton, to apply 2 or 3 times daily a salve composed of :

Chrysarobini grs. 12, Iodoformi grs. $4\frac{1}{2}$, Ext. Bellad. grs. 9, Vasellini drs. $3\frac{3}{4}$. M.

In the treatment of **internal hemorrhoids** employ suppositories composed of :

Chrysarobin. gr. $\frac{3}{10}$, Ext. Bellad. gr. $\frac{1}{7}$, Cacao Butter grs. 30 ; Glycerini q. s. If there be troublesome bleeding Tannin is employed, The most severe cases will be thoroughly cured after employing this treatment for 3 or 4 days. The pain and bleeding will disappear and piles will shrivel up. 22 cases had been thus treated (Dr. M. S. Kossobudskji).

3. R Acid Carbolici (fluid), Ext. Ergot. Liq. á â. equal parts. M. Inject 5 to 10 drops into each tumour, and repeat it in 7 or 10 days if necessary. I believe it far better than ligature or amputation ; it is less painful and without any danger, although it is equally efficient (Dr. E. B. Fenn).

4. R Acidi Carbolici drs. 2, Glycerini Pur. dr. $\frac{1}{2}$, Ext. Ergot. Liq. drs. 3. M. 5 to 6 mins. injected into the piles at each injection.

5. **Comp. Pile Ointment.**—R Gallæ Pv. 1, A. Carbol. 1, Ext. Ergotæ $\frac{1}{2}$, Ext. Stramonii $\frac{3}{4}$, Ext. Hamamel. 1, Dis. Oil Tar $\frac{1}{2}$, Cerate 20, all parts. M. For promptly relieving and curing piles in various stages such as blind, mucous, bleeding or external piles.

6. R Opii Pv. grs. 20, Acidi Tannici grs. 20, Acidi Carbolici grs. 10, Ext. Ergotæ Liq. drs. 2, Ung. Petroleii oz. 1. M. Apply on piles.

7. R Zinci Oxidi dr. 1, Ol. Chaulmoogra drs. 4, Acidi Carbolici dr. $\frac{1}{2}$. M. To be applied on piles. Also for eczema, pruritus of genitals, fistulæ, and rectal irritations.

8. R Tr. Capsici part 1, Sp. Terebinth. 2, Sp. Camphoræ 3, Iodini Decolorata 3. M. For itching piles.

9. R Ung. Picis drs. 4, Zinci Oxidi dr. 1, Ung. Rosæ ozs. $1\frac{1}{2}$. M. For the relief of itchiness in piles.

10. F. 1. pg. 965. F. 2. pg. 870. F. 6. pg. 839. F. 23, pg. 874.

11. R Podophyllin gr. $\frac{1}{2}$, Ext. Physostigm. gr. $\frac{1}{4}$, Ext. Bella-don. gr. $\frac{1}{4}$. M. ft. pil. One pill every other night, followed by Friedrichshall water in the morning. For bleeding piles, and for relieving congestion of the portal circulation.
12. R Aloes Soc. gr. 1, Saponis gr. 1, Ext. Hyos. grs. $1\frac{1}{2}$, Ipecac. gr. $\frac{1}{4}$. M. ft. pil. One night and morning. For hæmorrhoids from congestion of the portal circulation.

13. **Pilulæ Picis.**—Tar and Liquorice Powder, equal weights mixed, and made into five-grain pills. Dose : 2 or 3 pills t. i. d. (Dr. Seymour).

14. **Other internal and external remedies.**—Antiseptin 752, *Æsculus Hippocast.* (tincture in 5 mins. doses), *Capsicum* 143, Carlsbad salts, *Cascara Sagrada* 152, *Collinsonia* 211, *Glycerine* 304, *Hamamelis* 320, *Hazeline* 322, *Hollarhena* Antidys. 328, *Hydrastis*, *Hydrocotyle* As. 353, *Lanolin* 456, *Myristica* Off. 500, *Mangif. Indica*, *Menthol* 492, *Nux Vom.*, *Ol. Bismuth*, *Phytolacca* 565, *Plantago* Lan. 573, *Piper Nigr.*, *Punica Gran.* 584, *Resorcine* 611, *Rhamnus Frang.*, *Rhus Toxic.* 619, *Saraca* Ind. 649, *Senna Pods* 655, *Stillingia* 686, *Strychn. Ignat.* (1 to 2 grs. doses), *Sulphur* 699, *Suppositor. Hamamelis*, *Troch. Sulph. Co.* 700, *Ung. Aluminis c. Iodoform*, *Vinolia*, *Yerba Santa* 745.

HAY ASTHMA (HAY FEVER).

1. (Sp.) According to Dr. F. de Havilland Hall, **Antipyrine**, in doses of from 20 to 30 grains twice daily is "very efficacious in the treatment both of hay fever and hay asthma," especially if a mixture containing 3 minims of Fowler's solution, and from 10 to 20 grains of bromide of potassium be also given occasionally. Where the ozæna is very severe and persistent, it may be well to have recourse to the **galvano-cautery**, which can be employed with little or no pain if a 20 per cent. solution of **hydrochlorate of cocaine** be previously applied to the nasal mucous membrane.

2. R Pot. Iodidi grs. 12, Sp. Etheris drs. 2, Tr. Belladon. mins. 40, Tr. Sumbul mins. 80, Sp. Ammon. Aro. drs. 2, Aquæ ozs. 4. M. $\frac{1}{4}$ part every 3 hours.

3. Chloro-phosphide of Arsenic (mins. 10 of Routhe's solution) is useful in hay fever.

4. Liq. Hydrarg. Perchl. dr. 1 in a liquor glass, and, with the fourth finger of either hand, having first used the handkerchief, went over the septum nasi on both sides, two or three times every night on going to bed. This I did for several nights. For severe nasal cold with sneezings. (Sir Andrew Clarke).

5. F. 6. Asthma.

6. Many of the antispasmodics mentioned under Asthma (q. v.) are beneficial in hay asthma also.

7. R Iodoformi dr. 1, Cocainæ Hydrochl. grs. 6, Camphoræ dr. $\frac{1}{2}$, Pot. Nitr. drs. 6, Ol. Santal. Flav. mins. 4, Alcohol 90 p. c. q. s. Dissolve the cocaine in a small quantity of the strong alcohol and then add the Santal Oil and if required, more alcohol, until a clear and perfectly homogenous solution is thus obtained. Dry and mix the other ingredients in very fine powder, stirring into the latter, the before named solution in a warm wedgewood or glass mortar until most of the alcohol appears to have been vaporized. Lastly store in small well corked bottles until wanted. Insufflate in small quantities at first with rather long intervals between the operations, gradually diminishing the intervals and increasing the quantity of powder until an appreciable improvement in the symptoms is noticeable.

8. Camphor Spirit mixed with warm water to bathe the nostrils is highly useful in hay fever, and relieves irritation of the nostrils in common cold (P. Squire, F.L.S.).

9. Acid Camphoric 8, A. Carbolic,* Acid Hydriodic 13. Belladonna, Cocaine 190, Creasote,* Euphorbia Pilulif., Ferrier's Snuff 844, Grindelia Rob. 309, Menthol 486, Ol.* Terebinth., Pot. Bichrom. 573, Quinine 596-7, Sanitas Fluid 647, Stramonium.

* Employed as inhalations

HEMIPLEGIA.

Functional Hemiplegia.

1. **Hysterical Hemiplegia.**—Good meat diet, a little malt liquor and tonics; bowels regulated; encouragement given to use her limbs as much as possible; *static electricity* daily given for 10 minutes, sparks being taken from the affected limbs.

2. **Epileptic Hemiplegia.**—The mixture I have found of most service is Pot. Bromide grs. 20, Pot. Iodide grs. 10 *ter die*. The hemiplegic paralysis following epileptic fits is usually transitory and tends to recovery. Should hemiplegia continue shampooing and galvanism should be employed to the paralysed muscles.

3. **Uræmic Hemiplegia.**—This is of rare occurrence and its existence is denied by some high authorities. But one case had come under my observation. It was in a case of contracted granular kidney (*quo vide*). (Dr. T. W. Shore).

Organic Hemiplegia.

1. Aconite, Bromides, Eserine 563, Hoang Nan 327, Hydrarg. Subchl., Iodides, Pelletierine Sulph 586, Saline purgatives, Spermine 697, Strychnia 514. *Vide Cerebral Hemorrhage.*

HEPATIC (LIVER) DISEASES.

A new method of examining the liver, more especially its lower border is proposed by Glenard. The patient lies on his back, while the physician sitting to his right, on the edge of the bed, passes the four fingers of his right hand under the right hypochondrium of the patient, so as to press out the lumbar region, while the thumb, applied more anteriorly, makes gliding motions from below upward. If the patient now makes deep inspirations, the thumb will distinctly feel the lower margin of the liver.

HEPATIC CONGESTION AND TORPIDITY.

1. (Sp.) R Euonymin, Leptandrin, â â. gr. 1, Podophyllin gr. $\frac{1}{8}$,
Ext. Hyosc. grs. $1\frac{1}{2}$. M. ft. pil. 1 or 2 pills at bedtime. A

good combination of hepatic stimulants, useful for hyperæmia and torpidity of the liver, portal congestion and jaundice. It is a good plan when prescribing them to order a pill to be taken at night and a saline aperient or mineral water in the morning. This pill is often taken consecutively every or every alternate night for some time.

2. (Sp.) R Euonymin gr. 1, Podophyllin gr. $\frac{1}{3}$, Ipecac. gr. $\frac{1}{3}$, Ext. Hyosc. gr. 1. M. ft. pil. One pill every night. Its actions and indications are similar to the above, and it should also be followed by a saline aperient in the morning.
3. R Pil. Hydrarg. grs. $1\frac{1}{2}$, Pil. Coloc. et Hyosc. grs. 3, Ipecac. gr. $\frac{1}{4}$, Ext. Colchici Acet. gr. $\frac{1}{4}$. M. ft. pil. 2 pills to be taken occasionally. An excellent liver pill. Useful in sluggish liver, biliousness, gouty affections, and in other cases where an alterative is required, and as a good purgative.
4. R Podophylli Res. gr. $\frac{1}{4}$, Ipecac. Pv. gr. $\frac{1}{2}$, Capsici Pv. gr. $\frac{1}{2}$, Ext. Hyosc. grs. 2. M. ft. pil. One twice or thrice a day. One taken at bed time will usually act mildly on the bowels the following morning; may be taken every day for a week or two. Half a tumblerful of Friedrichshall Water, or, better, a dose of Kirby's Sal Mineralis Powder, taken fasting every or every alternate day, during its course, produces copious bilious evacuations. It is a useful chalogogue and alterative. It is given with excellent effect in suppression or partial suppression of the secretion of bile; is useful in hepatic enlargements, dropsy, and other disorders of persons who have lived "high," and long resided in hot climates.
5. R Ext. Aloes, Fellis Bovis Inspiss., â â. grs. 15, Podophylli Res. grs. 2. M. ft. pil. 10. Two every alternate day. Dr. Hammond recommends this pill, as an aperient and alterative in chronic alcoholism, and in diseases of the liver induced by hard drinking. It may also be given in any case in which there is hepatic torpor arising from other causes than the abuse of alcohol.
6. R Magn. Sulph. drs. 4, Sodæ Tartaratæ grs. 40, Inf. Gent. ozs. 2. M. ft. haustus. To be taken every morning. In corpu-

lency, congestion of the liver, and to relieve the effects of too good living, without destroying the appetite or disturbing the stomach. (Dr. N. E. Davies).

7. F. 11, 13, 14, 17, 25, **Constipation**, pg. 872-4. ;

F. 4, 6, **Gout** ; F. 2, 3, **Jaundice**.

8. Colómel Triturates 340, Iridin 399, Massage 479, Phytolacca 565, Rumex Crisp., Saccharine 623, Sodii Taurocholas 667, Stillingia 686, Water Melon Juice 739. For other remedies, *Vide Cholagogues*.

HEPATITIS.

1. F. 1. page 826.

2. Ammon. Chloride, Berberis Aquifolium 91-2, Hyrarg. Subchl. 338 to 40. *Vide Cerebral Hemorrhage* pg. 847.

HEPATIC ABSCESS.

1. **Frottement Perihepatique**.—Dr. Bertrand calls the attention of the medical profession to a very valuable sign of abscess of the liver—viz., perihepatic friction sound (*frottement périhépatique*), not described in text-books. This perihepatic friction is perceived by the ear and by the hand applied to the *right hypochondrium*, more frequently at the level of the seventh or eighth intercostal space, on the anterior axillary line, which would appear to indicate the peritoneal origin of the lesion. This sign is the more important as it may precede by several days œdema of the part. The perihepatic friction sound is, moreover, proof that the liver is fixed to the abdominal walls by the peritoneum, knowledge which is not without importance to the surgeon. In general this friction is found at the level of the point where the *maximum of pain* is felt. It is also at this point where parietal œdema occurs, which would indicate the spot where any *exploratory puncture* should be made. In conclusion he advises that in an individual presumed to be affected with abscess of the liver auscultation should be employed, not only over the respiratory organs, since thoracic migration of pus may have taken place, but also over the liver, to aid in diagnosing the hepatic abscess.

2. **A new operation for Hepatic Abscess.**—The following operation has been performed by George Zancarol, M. D. surgeon to the Greek Hospital, Alexandria, with excellent results for more than 2 years. The operation consists in making a large opening sufficient to expose the whole cavity of the abscess, and in thoroughly cleansing it of all pus and *débris* of sloughing hepatic tissue. It may be divided into three stages : (a.) Exploration of the liver ; (b.) Opening the abscess ; (c.) Cleansing the abscesscavity.

(a.) **Exploration of the Liver.**—After having well washed the skin with a brush and soap and water and a 2 per cent. solution of carbolic acid, an *exploring trocar* is *plunged into the liver* to find the abscess ; this exploratory puncture may have to be repeated several times, so that a good idea may be formed of the size and direction of the abscess.

(b.) **Opening the Abscess.**—An opening is made with the **thermo-cautery** into the lower third of the abscess, five to seven centimetres (two to nearly three inches) long, according to the size of the abscess, and as much as possible in the direction of its greatest diameter. This opening must be sufficiently large to enable the surgeon to see the whole cavity with ease when the edges of the opening are held well apart by retractors. To obtain this result in abscesses of the left lobe an opening in the soft parts will suffice ; but if the abscess is in the right lobe, **resection of one or two ribs** will be necessary. This resection is also performed with the thermo-cautery, using an elevator to detach the periosteum and Liston's bone-forceps, care being taken not to wound the intercostal artery ; should this, however, happen, the hæmorrhage will cease as soon as the abscess is opened. After resection of the bone, the abscess is opened with the thermo-cautery, keeping always in the direction of the resected rib, and with the aid of two strong retractors held by an assistant, while the margins of the incision are kept open, they are pressed against the liver, and kept in close contact with the abdominal and thoracic walls, so as to prevent either pus, or the liquids used for washing out the abscess, from finding their way into the abdominal or pleural cavities. If this

precaution be observed, no harm will result, even should there be no adhesion between the wall of the abscess and the parietal peritoneum ; for when once the abscess has been thoroughly washed and cleansed, adhesions will be established before fresh pus can accumulate. In fifty such operations performed by him during the last two years, no purulent matter has ever escaped into the pleural or peritoneal cavities, although cases were operated upon in which no adhesions existed.

(c.) **Cleansing the Abscess-Cavity.**—The retractors being still held in the position already described by an assistant, a strong current of warm distilled water is allowed to play within the abscess-cavity by means of a siphon ; every particle of adherent pus and necrosed tissue is removed with the fingers, or with sponges fitted to proper holders, and the washing-out is continued until the walls of the cavity look perfectly clean, often granulating, and the water returns clear. The retractors are then withdrawn, two drainage-tubes of large calibre are inserted in the cavity, and the dressings applied, which are left undisturbed for twenty-four hours, the cavity is then washed out again with warm distilled water, as above described, and the current kept on until the water returns perfectly clear. As a rule, the temperature becomes normal immediately after the first washing, but if fever should reappear, or if the pus is abundant, the washing-out should be repeated every twelve hours ; if, in spite of all this, the *fever persists, or diarrhœa sets in*, this would indicate that other abscesses exist in the liver, and such cases are *invariably fatal*.

3. A. W. D. Leahy, F. R. C. S. Eng. the officiating Residency Surgeon, Hyderabad, recently delivered a clinical lecture in which he sought to impress the advantage of *treating liver abscess by free incision and drainage under antiseptic precautions*. He speaks from experience and his lecture contains several practical points that merit attention. When there is a tumour in which fluctuation can be detected the aspirator may be used ; but if it quickly refills and the patient's temperature rises, Mr. Leahy strongly recommends that an incision be made into it, the pus evacuated, *the cavity washed out with carbolic lotion or perchloride of mercury*, a drainage-tube inserted, and the case

from first to last treated antiseptically. He speaks of fifteen cases treated in this way, with two deaths ; and dwells upon one or two practical points in connexion with this method of treatment, the following being an extract from the lecture :—

“In those cases where we have to open the peritoneal cavity before cutting into the abscess, we will find it useful, before dividing the peritoneum, to pass a curved needle through the serous membrane and wall of the abscess at the upper part of the incision in the abdominal wall, bringing it out through the structures of the wall of the abdomen on one side of the incision. The needle should then be threaded with a piece of silk, carried across the sac, i.e., within the cavity of the abscess and made to protrude through the opposite lip of the incision, the skin not being included on either side. This manœuvre is then repeated at the opposite angle of the wound, and both strands of silk are given to an assistant to hold. He is instructed to pull them upwards, thus bringing the wall of the sac with its serous covering closely in contact with the parietal peritoneum. We then cut into the abscess between the two pieces of silk, tell the assistant to slightly relax one of them, so as to enable you to hook up the loop of silk from the interior of the abscess with an aneurism needle, and bring it into the wound. This loop is then divided, and the two halves of silk are tied on each side of the wound. When the same thing is done with the other piece of silk, the edges of the incision in the sac of the abscess and in the parietal layer of peritoneum are closely applied the one to the other and both of them are fixed to the wall of the abdomen. Any escape of pus into the cavity of the peritoneum is thus effectually prevented. The other practical point to which I would direct attention is the removal of the drainage-tube. As soon as the discharge from the cavity of the abscess is sufficient only to stain the gauze dressing, the tube should be removed. If it is allowed to remain in for longer it is apt to set up irritation and cause pyrexia. The drainage tube used should be of large calibre, and for the first few days should be secured by means of a silk suture to the skin of one lip of the incision to prevent it receding into the cavity of the abscess.” He adds, in regard to those cases in which the existence of hepatic abscess is suspected, but where there are no local physical signs of its presence, that “some

surgeons in such cases are in favour of exploring the liver for pus by means of the aspirator. Such a method of treatment is, he thiuks, open to doubt, for even if we are lucky enough to hit off the abscess, the evacuation of its contents by aspiration is not likely to result in a permanent cure, and when the abscess refills, as it nearly always does, it may be seated so deeply within the substance of the gland as to forbid our cutting into it, and thus treating it successfully."

HEPATIC HYPERTROPHY.

Acid Nitro-Mur. Dil., Boldo 105, Bromides, Carlsbad salts 146, Conium, Friedrichshall Water 290, Hydrarg. Perchl., Iodides, Menispermum.

HEPATIC CIRRHOSIS.

Boldo 105, Carlsbad salts, Ferri Iodide, Orthosiphon 530, Pot. Iodide, Quinine, Rubus Cham. 620, Stillingia 686, Taraxacum.

HERNIA.

1. Application of cold by means of an icebag over the tumour, or, if this fails, as it sometimes does, letting the patient sit for a few minutes into a bath of hot water, often fascilitates the reduction of hernia that cannot be reduced by ordinary taxis.

2. *Æther spray* 26 to 27, Belladonna 81, Chloroform, Enema Tabaci.

HERPES.

1. (Sp.) (a.) The abortive treatment by alcohol and alcoholic solutions.—Dr. Dupos describes a method of aborting herpes proposed by Prof. Leloir as follows :—

Alcohol of 90 per cent. strength, or a solution of 2 parts of Resorcin to 100 of alcohol, can be employed as a dressing ; or, again 1 gramme of Thymol, or 3 grammes of Menthol, or 25 centigrammes of Phenic Acid, or 2 grammes of Tannin, to 100 of 95 per cent. alcohol. If these solutions cause too much pain, a little Cocaine may be added. Ext. Cannab. Ind. 5 per cent in alcohol, or Muriate of Cocaine 2 percent in alcohol are also other formulæ.

Compresses moistened in one of these solutions are to be applied upon the lesions, and over this is spread some impermeable material. Absorbent cotton may likewise be used. These dressings must be changed frequently during the day. Under the influence of this treatment *the herpetic eruption even in the stage of erythema is seen to abort rapidly*—in the course of a few hours sometimes, if made at the onset. If the herpes have already reached the period of suppuration, the vesico-pustules and pustules rapidly disappear by drying up, and no new ones are produced, while the surrounding redness diminishes with equal rapidity, and the duration of the attack is much shortened. The element of pain is equally subdued, and it is not rare to see rebellious neuralgias from herpes zoster give way in a few hours by the employment of this method. Prof. Leloir claims that in this manner even the *most violent attack of Herpes Labialis, or even Herpes Zoster*, may be cured within 2 to 5 days. He, suffering himself from repeated attacks of *Herpes Labialis*, found that after the application of *eau de Botot* not only did the pain diminish in a few minutes, but that extension of the disease was prevented. As regards the employment of Tannic Acid solution in alcohol with 2 per cent Cocaine which he recommends, caution should be observed, because there are cases on record of marked symptoms of poisoning following the use of such strong solutions of Tannic Acid.

2. Ichthyol mixed with water and painted on the part, acts as a **true abortive** before the vesicles have formed. *Vide* pg. 367.

3. A strong paste made of Sulphate of Zinc, Resorcine and Glycerine, and applied, also acts as an abortive.

4. Sulphur in the form of gelatinous paste of Sulphate of Zinc, or Corrosive Sublimate, Iodoform, Carbolic Acid or Resorcine in the form of solutions, are useful in herpes zoster when the vesicles have already formed and to prevent them suppurating.

3. **Herpes Frontalis.**—(a.) The following treatment has a great success in herpes frontalis which is also a variety of herpes zoster :—

R Vin. Colchici mins. 15, Pot. Bicarb. grs. 20, Liq. Arsenic mins. 3. M. To be taken t. i. d. after meals. Also a weak solution of *Nitrate of Silver* to be painted on the erythematous part either before the formation of vesicles or when formed subsequently. If no benefit results from weak solution, increase the strength. *In acute cases* Liq. *Atropine* to be dropped into the eye on account of frequent complication of **Iritis**.

(b.) The local application of a liniment composed of Tr. Aconiti drs. 4 and Lin. Belladonnæ ozs. $1\frac{1}{2}$ is the best treatment for the numbness, twitching and tingling that are common in herpes frontalis; and these symptoms are due to some involvement of orbital nerves. 5 to 10 mins. of Tr. Cannab. Ind. may be given internally twice a day with much benefit. (Dr. A. C. Dutt.).

5. R Plumbi Carb., Ext. Erythrox. Cocæ, â â. grs. 30, Lanolini drs. 4. M.

6. F. 3. **Furunculosis**, pg. 968.

7. Other external and internal remedies :—Aconitin 23, Æther 27, *Antifebrin* 51, Antipyrin 89, Belladonna 81, Ferri Arsenias (I.), Glycerine, Helenin, 324, Hydrarg. Ammon. Ung., *Jatropha Curcas* 427, Lanolin, *Menthol* 492, Ol *Menthæ* Pip. 523, *Rhus Toxic.* 619, Thiol 709, Ulmi Cortex (E.), *Vinolia*, Zinc Phosphide (I.).

HICCUGH (HICCUP.)

1. (Sp.) Dr. Henry Tucker's simple remedy is to moisten **granulated sugar with good vinegar**. Give an infant of this from a few grains to a teaspoonful. The effect is almost instantaneous and dose seldom needs repetition. He has found it for all ages from infants of a few months old to those on the down hill side of life and has never known it to fail. Recently Dr. Lobel after trying all the ordinary measures without avail fell back upon this household remedy as a last resort; he ordered a teaspoonful of the above and the hiccough stopped immediately and did not return for six hours and then ceased after a second dose.

2. (Sp.) A teaspoonful of **mustard** steeped in 4 ozs. of boiling water for 20 minutes and strained has cured 2 cases of **persistent hiccough**. The patient should drink whole infusion at one draught.

3. (Sp.) **Sneezing** occurring after hiccough **removes hiccough**. So by tickling the nostrils, we excite sneezing, with stoppage of hiccough. It is not even sufficient to excite sneezing. Simple application of an irritant to the nasal mucous membrane will be quite enough to put a stop to hiccough by diverting the nervous energy to other channels (Dr. Gibson). A patient had been in the habit of getting hiccough every day for the last 20 years whenever food or drink entered his stomach. To this patient, after failure of morphia and atropine injection, I recommended this plan, and he found it very effective to put a stop at once to the fits of hiccoughs by simply tickling inside of his nose by a bit of paper.

4. **Dr. Kinnaird's procedure**.—His method is to place the tips of the fingers of both hands in the position of complete supination against the abdominal muscles, at the lower and outer junctions of the epigastric with the hypochondriac regions. With the finger tips in this position, firm and very gradual pressure is made backward and upward against the diaphragm. This pressure should be continued for some little time after the diaphragm has ceased its spasmodic contractions when the fingers should be very gradually withdrawn.

5. Dr. Ramos states that *refrigeration of the lobe of the ear* will stop hiccough, whatever its cause may be. Very slight refrigeration will answer, the application of cold water or even saliva being sufficient.

6. (Sp.) A man after receiving some injury or fall was seized with hiccough which many remedies failed to stop. He had *grs. 30 of Chloral Hydrate* given, had sleep for 6 hours and on waking no more hiccough occurred. Several other cases were cured by Chloral when other drugs failed.

7. Hiccoughs occurring in low forms of disease and in old men have been always cured simply by pills of 4 grs. *Ext. Hyoscyami*. A single pill will sometimes suffice. (Dr. J. A. Cullam).

8. **Inhalation** of about 20 drops of *Chloroform* immediately stops the attack.

9. Tr. Opii and Chloroform rubbed over the phrenic nerves, gives relief.

10. *Æther*, *Amyl Nitrite* (inhalation), *Apomorphia*, *Atropine* and *Morphia* (hypodermically), *Castoreum*, *Ext. Ergot. Liq.* 244, *Hyoscyamine* 359, *Jaborandi* 405, *Pilocarpine* 409.

Vide Antipasmodics.

HORDEOLUM (STYE.)

1. **External remedies.** (a.)—In the early stages of the disease the eye lash passing through the inflamed spot should be extracted, and a every fine point of the *diluted Nitrate of Silver* should be immediately applied to the mouth of the open follicle; the inflammatory action may frequently be arrested by these means. But if suppuration has occurred, it is better to apply *warm poultices* to the eye, changing them every second hour; and as soon as the abscess points, the matter may be let out with the prick of a lancet. (Dr. C. Macnamara.) (b.) *Hydrarg. Oxidi Rubri.* (c.) *Plumbi Carb.*

2. **Internal remedies.**—*Calceum Sulphide* 133, *Pot. Chlorate* 575, Tonics, &c.

HYDROCELE.

1. Dr. Keyes recommends the injection of pure **Carbolic Acid** ‘‘deliquesced in a little Glycerine as a simple, effective and almost painless method of treating hydrocele even of large size. The instrument he uses is a glass syringe holding about a hundred minims, to which an hypodermic needle of medium size is fitted as a nozzle. The hydrocele fluid is first drawn off either through this needle or by a separate puncture; 30 to 60 mins. of Carbolic Acid and Glycerine are then injected. Dr. Keyes recommends that the patient should be kept quiet, but not necessarily confined to bed, for 48 hours. Dr. J. A. Roberts has used this for 10 years (1871-1881) with uniformly good results.

A drachm of Carbolic Acid deliquesced by 5 p. c. of Glycerine was injected in a case and a permanent cure followed ; also 4 other cases were treated similarly. This is said to succeed even where Iodine fails.

2. The contents of sac are to be evacuated and $1/32$ gr. of Corrosive Sublimate dissolved in 15 mins. of water (the solution therefore being 1 gr. to the ounce) injected into sac. This will cause no pain and no return of effusion. This method was employed in 4 cases with success.

3. **Other injections.**—Ext. Ergot. Liq. 245 ; Ichthyol para 14, pg. 372 ; Iodine, a drachm or more of Tr. Iodine with double the quantity of water ; Iodol 396.

HYDROCEPHALUS.

Blisters, Cod Liver Oil, Compression of the head, Diuretics, Ferri Iodide, Glycerine, Hydrarg. Subchl., Pot. Iodide, Puncture, gentle aperients, and plain and nourishing food, are the measures and remedies to be adopted according to indications.

HYDROMATA.

F. 2. Cysts.

HYDROPHOBIA.

1. The following is the summary of a collection of fifty cases of hydrophobia reported as successfully treated by different medical men :—

One point is striking about almost all the successful cases—viz., that decisive treatment was commenced at an early stage of the disease, before it had progressed far enough to be hopeless. This should enforce the importance, not only of the kind and vigour of the treatment, but of prompt diagnosis, and of not losing any time in taking active measures. Of the various modes of treatment it seems to me that of any single kind very copious *bleeding* is the surest. *Mercury* alone or combined with it is also tolerably sure. Only a few cases have been reported of failure after *very large* bleeding. *Cold affusion* or *vapour baths* may also be

successful, or *sweating* may be induced by *pilocarpine*. *Curare* also, if pushed decisively, promises fairly well. *Chloral* by mouth or enema and *Chloroform inhalations* may be useful to lessen the violence of the paroxysms, and may sometimes subdue them altogether; sometimes *Pot. Bromide* may be combined with *Chloral*; but *Morphia*, especially in small doses, is not to be relied upon, even to procure relief, but it often only *aggravates* the disease. *Cannabis Ind.* internally and hypodermic injection of *Eserine* were employed in some cases. (F. Lucas Benham, M.D., M.R.C P.).

2. M. Bomley, a member of the French Academy of Sciences has made an important communication on the cure of hydrophobia. Out of 9 persons suffering from the bites of mad dogs, not one of those treated by M. Bomley's method, died. Whilst all who had their wounds cauterized in the usual way succumbed after a period of intense suffering. After being carefully washed, *the wound was well rubbed with powdered Garlic*, which was allowed to remain on the injured place and the patient allowed **a strong decoction of Garlic** for 8 or 9 days, under one form or other with his food. The effect, it is said, is infallible.

3. *Cannabis Ind.*, *Chloral Hydrate* 167, *Cocaine* 193, *Curara* 757, *Pelletierine Sulph.* 586, *Sodii Hyposulphis* 663.

HYPERÆSTHESIA OR HYPERSENSITIVE- NESS OF ORGANS AND TISSUES.

1. R Ext. *Conii* grs. 10, *Naphtholi* grs. 10, *Olei Camphoræ* gtts. 5, *Vinolia* dr. $\frac{1}{2}$. M. For paræsthesia and all irritable conditions of the integument. *Vide* F. 1. **Fissures.**

2. F. 4. **Hysteria.**

3. *Aconitine* 23, *Antifebrine* 51, *Antipyrin* 58, *Bellad.* 52, *Cannabis* 139, *Cocaine* 184 and 191, *Menthol* 492, *Salix Nigra* 627, 628 (case 5), and 629. *Vide Analgesics.*

HYPERIDROSIS.

Excessive Sweating in Phthisis, &c.

1. (Sp.) Dr. Leu has tested the action of **Camphoric Acid** on the night-sweats of phthisis. This remedy was given to 13

different individuals, in 55 different doses, who suffered from night-sweats, in some cases to a very severe degree. Perfect success was reported as being obtained when there was perfect dryness of the skin, and this result was obtained in sixty per cent. of the cases treated. A partial success was obtained in only eighteen per cent. The average dose amounted to 30 grains of camphoric acid, although in some cases this dose was increased to 45 or even 75 grains, 35 to 45 grains being given in the evening and about 30 grains being given in the middle of the day. A remarkable fact was that sometimes the favorable influence of the camphoric acid was not noted until the evening after its administration, while, further, the good effects persisted for several successive evenings. In order to make a comparison with the remedies which possessed the greatest repute in the treatment of night-sweats, such as atropine, the author administered this remedy to six different cases in twenty-four instances, alternating each evening with camphoric acid. It appears from these experiments that perfect success was only obtained in forty-two per cent. of the cases treated with atropine, thus falling below camphoric acid in efficacy; while, further, even in the cases which were favourably influenced by the atropine, the permanence of the effect was not to be compared with camphoric acid. Moreover, all disagreeable after-effects, or secondary effects, from the administration of camphoric acid are quite insignificant.

2. (Sp.) R Zinci Oxidi gr. $\frac{1}{2}$, Salicin gr. 1, Ext. Bellad. gr. 1-12, Hydrastine gr. 1, Lactated Pepsin gr. 1. M. ft. pil. Dose : 1 to 3 pills. For night-sweats of phthisis.
3. R Zinci Oxidi grs. 2 to 3, Ext. Bellad. gr. $\frac{1}{4}$ to $\frac{1}{2}$, Ext. Gent. q. s. M. ft. pil. To be given at bedtime. Same as above.

4. In cases where Atropine, &c. is not serviceable, *the application of ice over abdomen* for several hours during night is useful for night-sweats in phthisis.

5. Agaricin 29, Atropine 83, Coto 227, Duboisia 239, Ergotine 249, Eserine 560-61, Ferri Perchl. 285, Jaborandi 403, Picrotoxin 200, Muscarinæ Nitr. 763, Pot. Tellurate 768, Potentilla 576, Rhus Aro. 617, Sulphonal 697.

Hyperidrosis Due to Abnormal Activity of the Sweat Glands.

1. (Sp.) When the sweating is general, baths containing sea Salt or carbolic acid may be employed or portions of body may be successfully rubbed with a soft sponge dipped in a solution of 5 parts of Quinine in 500 of alcohol. (Prof. G. Fox).

2. (Sp.) In hyperidrosis of the axilla and genital organs, a strong solution of Tannin or Alum may be used, dusting the parts after drying, with a powder composed of Salicylic Acid 3, Starch 10, and Talc powder 100, parts. The feet and hands may be similarly treated. Another excellent remedy is the Subnitrate of Bismuth, rubbed well into the skin after bathing or dusted over the inside of gloves and stockings. (Ibid).

3. Hebra's plan of treatment.—This if properly carried out, usually affords immunity from the annoying secretion for a considerable time, if it does not effect a cure. It consists in spreading * diachylon ointment upon pieces of linen, with which the fingers and toes, as well as the rest of the hands and feet, are carefully enveloped. The dressing is to be employed twice daily for a week or two, the hands not being washed in the meantime. The application causes an exfoliation of epidermis leaving the skin soft and comparatively dry.

4. Socks to be changed night and morning. The feet to be first washed in cold water with carbolic soap and dried and next swabbed all over with lotion made by adding a drop of Liq. Atropinæ to an ounce of Liq. Hydrarg, Perchl. This is to be allowed to dry on by evaporation. For hyperidrosis of the feet, &c.

5. R Zinci Oleat. parts 2, Talci, Amyli, â â. parts 3. M.

6. R Ext. Hamamel. Fl. oz. 1, Aquæ ad. ozs. 20. M.

7. R Hydrastin grs. 4, Lanolini drs. 2. M. For hyperidrosis and seborrhœa.

8. F. 1, 6, Bromidrosis; Alum Soap 890; Naphthol-Sulphur Soap 892. Vide Antihidrotics.

* Lead Plaster 1, Vaseline 1: melt with heat.

HYPOCHONDRIASIS.

1. R Ferri Hypophos. grs. 2, Strychn. gr. 1/20, Ext. Quassia q. s.
M. ft. pil. One t. i. d. Very useful in hypochondriasis,
neuralgia, and mental depression.
2. R Ferri Redacti grs. 2, Zinci Valer. gr. 1, Strychn. gr. 1/20;
M. ft. pil. One t. i. d. with food.
3. F. 5. **Alcoholism.** F. 2. **Chorea.**
4. Auri et Sod. Chloride 77, Absinthe, Belladonna, Caffeine
127, Cannabis, Chloral, Coca, Cypripedin, Lavandul Oil, Nux. Vom.,
Phosphorus, Quinine, Sulphonal. *Vide Melancholia.*

HYPODERMIC MEDICATION.

Full Precautions.

1. **Accidents** have sometimes occurred from injecting medicines subcutaneously, accidents of a diverse and widely differing nature. Even the prick of the needle itself into the chest has in two different instances been followed by instant death, so that the moral preparation of patients where a hypodermic injection is to be given is a matter of moment.

2. The *position of the patient* should be taken into account, and in all cases recumbency maintained. It is a common thing for a hypodermic injection to be followed by *symptoms of syncope*, if the patient be in the *erect position or moving about*. It is frequently heard that persons give themselves hypodermics while walking or travelling, and the inference is made that the procedure is safe. This is not necessarily the case. In a person with a weak heart, or who is easily perturbed, a subcutaneous injection simply of water might give rise to most alarming syncope. It is also known that especially in cases where a large dose of **aconite or digitalin** has been administered the patient should remain in the **decubitus**. In case of poisoning with these drugs, the sudden change to a sitting or erect posture may induce immediate death. It would seem that much of the unpleasantness which has occurred in connection with cocaine may have been due to the patient not remaining quiet.

3. "Great care," says Wood, "should be taken to avoid throwing a medicine into a *vein*, and so producing a sudden overwhelming effect." Serious depression of the powers of life, fainting and sudden and profound narcotism have been produced by injecting a solution of morphine directly into a vein (Bartholow).

4. The *danger of air* is also known to all. Fatal collapse might be induced by injecting air into a large vein along with the solution.

5. Irritation of the tissues from *particles undissolved* as well as *over-concentration, much acidity or alkalinity, and foreign matter* should be *avoided*. Mr. Walter Edmunds has recently insisted that it is not advisable to use a stronger solution of Cocaine than 5 per cent. *Vide* para 22, pg. 196. Morphine, ergotinin, sclerotinic acid, corrosive sublimate, curare, etc., should all be given in plenty of water. "A solution long kept, although it may not be turbid, or if turbid has been filtered, will, when injected, often cause an indurated and painful swelling, which remains for months, and is slowly absorbed or suppurates. In some cases a cyst forms on the site of such an injection, slowly enlarges, and when finally emptied is found to contain gelatinous purulent matters, with a small slough of connective tissue." "Two to four grains of salicylic acid to the ounce of solution may for a time prove effective in preventing change, but it increases the irritation—the smarting—which attends the injection; Boracic and benzoic acids are more irritating than is carbolic acid." "The acids are responsible for most of the abscesses, the sloughing and the tetanus which have followed the injection of medicaments" (Bartholow). **Chloroform Water** is a good preservative of hypod. solutions. *Vide* pg. 167.

6. It is generally considered that medicines are *absorbed with varying rapidity from different parts*; for instance, that over the temple and chest absorption is twice as rapid as elsewhere. Eulenberg holds that absorption on the back is slower than in any other place, though some have not observed this. For general safety and a maximum of freedom, from pain, the outside of the arms, calves, or thighs, the abdomen and back, are about the most desirable places.

7. The avoidance of pain in injecting is, of course, desirable, and the sensitiveness of the skin may be removed by holding a piece of

cotton saturated with *chloroform* over the part, or applying an *ether spray*. A very good way is to incorporate a *Cocaine Tabloid* with a little Lanoline, and rub it into the skin.

8. Some medicines are best injected into the subcutaneous cellular tissue, while others, like mercury and ergot preparations, should be injected deeper.

9. Much circumspection is requisite in the determination of the dose to be given, for half a grain of morphine has killed a man in a minute, and large doses of strychnine injected into a vein kill instantly. As Trousseau pointed out, it is probable that in many cases where heroic doses of morphine were given, they may not have been all absorbed for some time.

10. An injection is *never* recommended to be made into an *inflamed part*, and in cases where the rule has been disregarded phlegmanous abscesses have resulted. Inflammation has likewise followed a forcible subcutaneous injection over bony prominences and in tense tissues.

11. Morphine apomorphine, pilocarpine, the ergot preparations—in fact all the alkaloids and glucocides—require to be kept dry and dissolved as required for use.

Artificial Hypodermic Respiration.

In the higher animals the absorption and elimination respectively of oxygen and carbonic acid are carried on by means of a special apparatus the lung, where the blood takes up its vital oxygen and rids itself of its burden of carbonic acid. But this same process is repeated, in the interior of the tissues, between the blood and cells situated at the actual focus of combustion. Oxygen introduced by hypodermic injection is absorbed by the capillaries in the same way as the oxygen which passes into the pulmonary alveoli is absorbed by the surrounding capillary network. Moreover, the carbonic acid by which the blood is charged is eliminated at the point where a traumatic emphysema is produced in the same way as in the pulmonary structure. During the injections the respiratory movements were observed to lessen, and this was proved to demonstration by tracings taken of the

thoracic action. The absorption of the oxygen hypodermically was found to be in direct ratio to the surface and the time the current of gas was kept going. The elimination of the carbonic acid, on the other hand, was observed to vary according to the quantity circulating in the capillary vessels immediately adjacent to the focus of provoked emphysema. It is submitted therefore that it is clearly feasible to set up in the hypodermic cellular tissues an artificial respiration in every way similar to that which takes place normally in the pulmonary alveoli. Oxygen so injected causes no irritation or subsequent local trouble, but the gas being most active when fresh, that used for this purposes should therefore have been recently prepared. It is suggested, in fine, that artificial respiration thus carried out will be found to render vital assistance in all affections or conditions in which effectual aeration of the blood is impeded through a default in the working of the pulmonary apparatus. (M. Cobes of Buenos Ayres.)

HYPODERMIC SOLUTIONS.

Directions for Use.

Solutions of	Use.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims.	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
ACETIC ACID.— Strength.—1 in 4. Dose.—2 minims.	Cancer, * Strumous Glandular Enlargements			* 10 to 30 minims for an injection.
ACID Carbolic.	<i>Vide</i> pg. 8.			
ACID OSMIC.	<i>Vide</i> pg. 14.			
ACONITINE. Strength.—1-20th of a grain in 12 minims. Dose.—2 to 4. minims=1-20th and 1-60th of a grain.	Tetanus, * Neuralgia.	<i>Vide</i> pg. 23.	2 to 4	* 4 minims and dose carefully increased produces rapid cure. 2 minims in Trigeminal Neuralgia.
ALLYL TRIBROMIDE.	<i>Vide</i> pg. 39.			
ALOINE. Strength.—1 grain in 20 minims. Dose.—5 to 10 mins.	Purgative.			

Solutions of	Uses.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
<p>AMMONIA. Strength.—1 in 3. Dose.—6 minims. (average.)</p>	* Puerperal. Fever.	† Snake-bites.	20 to 30	<p>* Dr. Tyler Smith injected into the vein of the right arm 8 minims with 24 minims of water when the patient was sinking from puerperal fever, and she recovered. † For snake-bites, should only be used in almost hopeless cases, the operations requiring great care, and a six-minim syringe should be used.</p>
<p>AMYL NITRITE. Strength.—1 in 10 Dose.—10 to 15 minims.</p>	Lumbago, Duodenal Colic, Anodyne.	Paraffin Oil, Chloroform.	10 to 15	To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.
ANTIPYRIN.	<i>Vide</i> pg. 63.			
<p>APOMORPHINE. Strength.—1 grain in 60 minims. Dose.—5 to 15 mins.</p>	Emetic prompt and powerful Epi, epsy, * Sunstroke. <i>Vide</i> pg. 67.	** Carbolic Acid, Ess. Oil Almonds and all Poisons, Alcohol.	5 to 15	<p>Obstruction of the Œso- phagus may be removed by causing vomiting. * 5 minims; ** 10 mins.</p>
ARSENIC.	<i>Vide</i> pg. 69.			
ASPIDOSPERMINE.	<i>Vide</i> pg. 591.			
<p>ATROPINE. Strength.—1-20th of a grain of Pure At- ropine in 12 minims. Dose.—2 to 4 mins= 1-120th and 1-60th of a grain.</p>	<p>Night Sweats of Phthisis, & other wasting Diseases. As an antidote to the Cardio- inhibitory effects of Chloroform previous to administration Whooping Cough, Sper- matorrhœa, Sciatica, Asthma.</p>	<p>* Morphia, * Aconite, Benzol, Carbolic Acid, Cyanide of Potassium, Hydrocyanic Acid, ** Opium; † Calabar Bean Pilocarpine, Chloroform (inhaled); Gelsemium; ** Nitro-Glyce- rine, Eserine; † Chloral, Conium, Aconitine.</p>	4 to 12	<p>* Small doses should be frequently injected and the poison eliminated by drawing off the urine with a catheter frequently; 12 minims is antagonistic to 1 grain Morphia; ** Poisoning by Opium (equal to 18 grains) after other remedies had failed recovered by injecting hypodermically 4 minim doses of Atropine Solution; † Every quarter of an hour until the pupils dilate or the pulse is quickened, ** 4 minims; ‡ In bad cases may be repeated if the pulse and temperature improve.</p>

Solutions of	Uses.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims.	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
CAFFEINE. Strength.—1 grain in 5 minims. Dose.—5 to 10 minss.	Disorders of the Nerve Function, Hemiplegia, Cardiac Dropsy, Diuretic. <i>Vide</i> pg. 127-8.	Morphia, Alcohol, Opium, Chlorodyne, Cocaine.	10 to 20	
CAFFEINÆ SODIO-SALICYL.	<i>Vide</i> pg. 129.			
CHLORAL. Strength.—1 in 2. Dose.—10 minims.	Tetanus,* Anodyne, Hypnotic, Delirium Tremens.	Strychnine. <i>Vide</i> pg. 165-6.	10 to 20	* Large doses must be given ; may be repeated.
COCAINE. Strength.—1 grain in 20 minims. Dose.—5 to 10 mins.	<i>Vide</i> " Minor Surgery " pg. 194.	<i>Vide</i> pg. 178-9.	5 to 10	<i>Vide</i> pg. 192.
CODEINE. Strength.—1 grain in 16 minims. Dose.—2 to 4 mins.	Diabetes, Phthisical Coughs, Neuralgia.			
COLCHICINE. Strength.—1-20th grain in 12 mins. Dose.—4 to 8 mins. = 1-60th and 1-30th of a grain.	Gout, Rheumatism, Asthma, Dropsy, Cerebral Congestion.			In Acute Gout, Rheumatic Gout, Chronic Rheumatism 8 minims should be injected.
CONINÆ. Hydrobrom.	<i>Vide</i> pg. 214.			
CURARA. Strength.—1 grain in 40 minims. Dose.—5 to 20 mins.	** Chorea + Tetanus *Hydrophobia.	Strychnine. <i>Vide</i> pg. 757.	10 to 20	* Hydrophobia—10 to 20 minims every half-hour as required, the system to be kept in a state of artificial paralysis until the hydrophobic condition is entirely removed ; ** 20 minims ; + 3 drachms of the solution may be exhibited at intervals in the 24 hours.
DIGITALIS.	<i>Vide</i> pg. 235.			

Solutions of	Uses.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims.	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
DIGITALINE. Strength.—1-20th grain in 12 mins. Dose.—2 to 4 mins. =1-120th & 1-60th of a grain.	Heart Disease, Delirium Tremens, Spermatorrhœa.	Aconitine.	*4	Small doses slow the pulse and increase cardiac energy, useful to lessen fever and acute inflammations ; *May be repeated according to effect.
DUBOISINE. Strength.—1-20th of a grain in 12 mins. Dose.—4 minims = 1-60th of a grain.	Mitigates Sweating of Phthisis.	Muscarine, Pilocarpine.	2 to 6	Is a useful Calmative in Maniacal Delirium
ERGOTINE. Strength.—3 grains in 10 minims. Dose.—10 minims (average) may be greatly increased.	Hæmoptysis, and Hæmorrhages generally. § Heat Apoplexy of the Tropics. ¶ Cerebral Apoplexy, <i>Vide pg. 249.</i>	Nitro-Glycerine.	5	May be repeated in $\frac{1}{4}$ hour. <i>Vide pg. 249.</i> § Add 2 or 3 minims Aconitine solution. ¶ Where swallowing is difficult or impossible. A dose of this solution injected deeply into the gluteal muscles just before delivery <i>never</i> fails to give perfect uterine contraction.
ERGOTININE.	<i>Vide pg. 249.</i>			
ESERINE (PHYOSTIGMINE). Strength.—1 grain in 100 minims. Dose.—5 to 10 mins.	*Chorea, *Tetanus. ** Paralysis. <i>Vide pg. 563.</i>	Atropine, Strychnine.	5 to 15	* 3 to 6 minims, Traumatic Tetanus 10 to 15 minims every 2 hours. **Arrests muscular wasting and improves muscular power.
ETHER. Strength—S. G. .720 Dose.—20 to 60 mins.	*Collapse, **Typhoid Fever, Antispasmodic. <i>Vide pg. 27.</i>	Atropine. Strychnine.	5 to 15	*From Post Partum Hæmorrhage 30 minims, Surgical 60 minims. **Restorative, 20 minims.
HOMATROP. HYDROBROM.	<i>Vide pg. 329-30.</i>			
HYDRARG. CYANIDE.	<i>Vide pg. 341.</i>			
,, FORMAMIDIS.	<i>Vide pg. 332 & 760.</i>			

Solutions of	Uses.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims.	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
HYOSCYAMINE. Strength.—1-10th of a grain in 12 mins. Dose.—2 to 4 mins.	<i>Vide</i> pg. 359.			
HYOSCINÆ HYDRO-BROM.	<i>Vide</i> pg. 361.			
IODINE, Strength.—1 grain in 4 minims. Dose.—2 to 6 mins	Hydrocele, Fibrous Bronchocele.			<i>Vide</i> Cocaine.
MORPHINE. Strength.—1 grain Pure Morphine in 16 minims. Dose.—2 to 4 mins. = $\frac{1}{8}$ & $\frac{1}{4}$ of a grain.	Anodyne ‡ Spasmodic Asthma.	Atropine, Acetic Acid Hydrochloric Acid, Nitric Acid, Sulphuric Acid, Arsenic, Antimony, Bismuth, Cantharides, Iodine Lead, Savin, Turpentine. Copper, Croton Oil Zinc.	4 to 8 8 8 8 5 8	Frequently repeated. To ward off shock *(As a rule stomach pump should not be used.) After acute symptoms have subsided. As often as required. ‡ 1/6 to 1/3 grain with 3 or 4 minims solution Atropine when the lungs are full of sibilant rales.
MORPHINE AND ATROPINE. Strength.— $\frac{1}{8}$ and 1-120th grain in 2 minims. Dose.—2 to 4 mins.	*As Morphine Solution.			* The Atropine increases the Sedative action and counteracts the disagreeable effects of the Morphine on the head, stomach and bowels.
MUSCARINÆ SULPH.	<i>Vide</i> pg. 763.			
NITRO-GLYCERINE. Strength.—1-20th grain in 12 mins. Dose.—2 to 4 mins. = 1-120th & 1-60th of a grain.	Angina. Pectoris. * Collapse. Bright's Disease.	Caffeine.	2 to 4	* In collapse of Typhoid and other fevers, accidents, surgical operations, &c., and when the patient cannot swallow.
PELLETIERINE SULPHATE.	<i>Vide</i> pg. 586.			

Solutions of	Uses.	Especial Uses and Doses as Antidotal Remedies in Poisoning by	Dose, minims.	REMARKS. As a rule these Solutions should be injected as soon as the stomach has been evacuated and a stimulant administered.
PERCHLORIDE OF MERCURY. Strength.—1-20th grain in 12 mins. Dose.—2 to 4 mins. =1-120th & 1-60th of a grain-	Syphillis. <i>Vide</i> pg. 337.			<i>Vide</i> Cocaine.
PILOCARPINE. Strength.—1 grain in 40 mins. Dose.—4 to 8 mins.	*Prurigo, Urticaria, Puerperal Convulsions, Asthma, Hydrophobia, Syphilis, Bright's Disease, Sialogogue, Diaphoretic, Scarlet Fever, Diabetes.	Atropine Belladonna. <i>Vide</i> pg. 407-9.	6 **	* Twice daily. Three Hypodermic injections successful in a comatose case of Uræmia, Albuminuria, with Convulsions and complete Anuria. ** Repeated Fetid perspiration of the feet is cured permanently by Hypodermic injections of this solution.
PODOPHYLLIN. Strength.— $\frac{1}{4}$ of a grain in 10 mins. Dose.—5 to 10 mins.	Cholagogue, Purgative, Scrofula.			
POT. PERMANG.	<i>Vide</i> pg. 553.			
QUININE. Strength.—1 grain in 12 minims. Dose.—3 to 12 mins.	Ague, Advanced stages of Phthisis with excessive night sweating, Malarial Fevers	<i>Vide</i> pg. 600.		Full dose of 1 or 1½ grains should be injected.
SOLANINE.	<i>Vide</i> pg. 769.			
SPERMINE.	<i>Vide</i> pg. 675-7.			
STROPHANTHIN.	<i>Vide</i> pg. 586.			
STRYCHNINE. Strength.—1-20th of a grain in 12 minims. Dose.—2 minims=1-120th of a grain.	Paralysis, Incontinence of Urine, Gastralgia, to relieve pain of Cardialgia and Gastrodynia, Writer's Cramp	Chloral. <i>Vide</i> pg. 514.	4 to 8	In bad cases to be repeated if the pulse improves.
THEINE.	<i>Vide</i> pg. 770.			
VERATRUM.	<i>Vide</i> pg. 719.			
WATER (COLD.)	Sciatica.			

HYSTERIA.

1. (Sp.) **Treatment of Hysterical Fits.**—M. Pitres has recently made some practical remarks in this connexion. Having suppressed the fussy attentions to the patient, and released her from all the physical restraint which may have been exercised over her by anxious friends, he says the next duty of the physician is to search for the **antispasmodic zones** by commencing in those parts in which they most frequently are found—viz., in the **ovarian and epigastric regions**. They do not always exist, however ; but if they do, **energetic pressure** made upon them will bring the crisis to an immediate termination. Another efficacious manœuvre is **prolonged and gentle compression of the eyeballs**. This usually results in the production of hypnotic sleep. The patient may be left in this state until she awakes herself, or she may be awakened brusquely by blowing in her eyes. M. Bernheim of Nancy induces **hypnotism** by verbal suggestion. He tells his patient that she no longer suffers, that she is about to sleep, that she sleeps, that the crisis is past, and, finally, that she is to wake up. In most cases these imperative injunctions bring the fit to an end. Another therapeutic method, of which, according to Dr. Pitres, the efficacy is incontestable, is the application of the **constant current**. One **electrode** is placed on the **forehead**, the other indifferently on the **abdomen or lower limbs**, the battery being constructed so that it is possible to reverse the direction of the current ; this is done two or three times, and is in general followed by immediate cessation of the convulsions. The current must, to be successful, be fairly strong—30, 40, and even up to 80 elements of Trouvé's battery. He points out, however, that the chief drawback to this treatment is the fact that it rarely happens that a battery may be within reach. Chemical substances, on the contrary, are more easily procured as a rule, and the inhalation of such substances as **ether, chloroform, or nitrite of amyl** is often successful. **Enemata** of solutions of **chloral hydrate** are also suggested, as well as (in some rare cases) hypodermic injections of morphine ; but he points out that this latter drug must be used with great caution and circumspection, as

hysterical subjects very readily develop the morphia habit. With a view of **preventing a recurrence of the attacks**, it is well to ascertain exactly what **spasmodic zones** the patient may have, and, should these zones be painful or easily excited, to **apply ice-bags over them or to spray them frequently with ether**. Should, again, there be antispasmodic zones, it is recommended to apply not only pressure to them at the time, but to keep this pressure up mechanically in a permanent form. Dr. Pitres would allay the excitability of the nervous centres by liberal doses of chloral, or, if necessary, morphine, but he makes no mention of the bromides. Should the patient be **hypnotisable**, he advises that it be "**suggested**" to her to have no further attacks within a given time. Dr. Pitres has had a curious experience with **coloured glasses** in the treatment of this affection. He says there are certain **colours** which will actually **provoke an attack**, while he finds other colours again which either induce hypnotic sleep in a few seconds, or bring about a feeling of calm and comfort in an equally short time; and he cites the case of a young girl, a patient of his, with whom the **wearing of spectacles with red glasses** had the effect of inhibiting an attack, and much delaying the recurrence of another.

2. (Sp.) When called to treat a young girl with an hysterical attack, there are 3 things you had better do. 1st. Institute at once **firm pressure in the neighbourhood of both ovaries**. This is very apt to quiet the patient at once. 2nd. **Administer an emetic** of full dose of Ipecacuanha with 1 gr. of Tartar Emetic which will charmingly control the spasm. 3rd. Take a good size **lump of ice** and press it right down the nape of the neck. This produces quiet by its powerful impression on the whole nervous system.

3. There are 3 means for overcoming the **trismus or locked jaw** in hysteria:—1st. Compressing the muscles attached to the hyoid bone. 2nd. Cold water douche over the face. 3rd. Galvanism over the muscles of the jaw and neck. The 3rd plan I have tried in all cases with success and without any injury to the patient.

4. (Sp.) R Morph. Mar. grs. 3, Cocainæ Hydrochl. grs. 4 to 8 Tr. Bellad. dr. 1 to drs. 2½, Aquæ Amygd. Amaræ drs. 6. M. 10 to 15 drops every hour. For hysterical hyperæsthesia, vomiting and spasmodic conditions.
5. (Sp.) R Ext. Sumbul, Ferri Sulph. Exs., â â. gr. 1, Asafœtida grs. 2, Acid Arseniosi gr. 1/30 M. ft. pil. 1 to 2 pills t. i. d. with meals. Dr. Goodell prescribes this pill for nervous and hysterical women who need building up. This pill is used with advantage in neurasthenic conditions in conjunction with Warner & Co's. Bromo-Soda.

6. F. 2. Chorea. F. 2. Dysmenorrhœa.

7. *Acid Hydrobrom.* 12, *Allyl Tribrom.* 39, Ammon. Brom., Ammon. Carb., Antifebrin 51, *Asafœtida*, *Auri Bromide* 113, *Auri et Sod. Chloride* 77, *Caffeine Valer.*, *Cajuputi Ol.*, *Castoreum*, *Caulophyllum*, *Cerii Valer.*, *Coninæ Hydrobrom.*, *Convallaria* 221, *Cypripedium*, *Ethyl Bromide* 254, *Ferri Bromide* 144, *Ferri Perchl.* 285, *Gelsemium* 298. *Guaranine*, *Hyosc. Hydrobrom.* 361, *Hyoscyamine* 359, *Jatamansi*, *Kaolin* 432, *Lavand. Ol.*, *Lobelia*, *Morynga Pteryg.*, *Paraldehyde*, *Pulsatilla* 583, *Quin. Valer.*, *Rosmarini Ol.*, *Rutæ Ol.*, *Salix Nigra* 628, *Scutellaria*, *Solanum Car.* 669, *Sulphonal* 496, *Terebinth. Ol.*, *Terpene Hydrate* 705, *Veratrum. Zinci Valer.*

ICHTHYOSIS.

Simple warm and alkaline baths, or vapour baths, may be employed as palliatives. The skin should be kept supple and soft by the free inunction of oil or better still Lanoline combined with Ichthol (*Vide* pg. 456).

ICTERUS (JAUNDICE).

1. (Sp.) Professor Stiller, of Buda-Pesth, has used **salicylate of sodium** as a cholagogue for five years, and has found it better than any other drug in rapidity and certainty of effect. He gives the following illustrative case, which is one out of many : A man, aged 50, had suffered for about four months almost daily from severe **bilious colic**, and had been **jaundiced** for about three months.

Rigors, [with a temperature of 40° C., frequently occurred. He was so emaciated that his appearance suggested cancerous cachexia, The liver was enlarged and resistant, but smooth. The gall-bladder could not be felt. After a week's treatment with salicylate of sodium the pains and fever disappeared, the icteric colour decreased, vomiting ceased, and after a four weeks' stay in the hospital he was dismissed cured. The details of the mode of treatment are as follows :—Half a gramme of the salicylate was given four time a day. It was given in half a glass of soda water, or any other alkaline water—never in wafers, as these increased the gastric irritation. Usually 0.01 gramme of the extract of belladonna was added to each dose, as a non-constipating anodyne.

2. (Sp.) R Podophylli Rad. P_v., Scammonii P_v., Sanguinariæ P_v., Ext. Taraxaci, â â oz. 1, Ext. Gentianæ oz. $\frac{1}{2}$, Ext. Podophylli oz. $\frac{1}{2}$. Mix the powders with the extracts and add a little water, if required, and divide into pills 4 grs. each. Give 3 or 4 pills every night. It is a good pill for jaundice, liver, and worms, and is good in all cases where disease of the liver is suspected. (Dr. Hamilton).

3. (Sp.) (a.) Free use of the juice of ripe **pineapple**, and if this be not obtainable, then juice of other subacid fruits as **oranges, lemons, grapes** and **pompelmoose** are very serviceable. If these are not procurable then give the following :—

(b.) R Sodæ Tartaratæ ozs. 2, Ext. Taraxaci drs. 2, Mist. Gentianæ Co. ozs. 12. M. oz. 1 or more every morning and then every 4 hours till bowels freely move. This may be given along with juice of fruits also. By this above plan every case of jaundice is cured.

4. (Sp) The peasants of Savoy use an **infusion of carrots** as a specific for jaundice. I also order this to all my patients and I find it produces good effects.

5. F. 1,2,4. **Hepatic Congestion.** Vide line 1st. pg. 913.

6. The following Indian drugs are employed by the *hakims* and *vaid*s in the treatment of jaundice and are too powerful to be used :—

(a.) Dried fruit of *Luffa Amara* (Karavi turái or Kadavi ghisodi) is powdered and snuffed into the nostrils, or a watery extract of the same is dropped into the nostrils.

(b.) A little of the fibrous contents of the fruit of *Luffa Echinata* (Guj. Kukadavela) is infused in water and given internally ; this produces copious bilious vomiting and purging.

(c.) Decoction of the leaves of *Lagenaria Amara* (Guz. Karvi tumbadi ; Eng. The bitter bottle-gourd) is given internally. This also produces vomiting and purging like the above, but to a lesser degree.

7. *Berberis Vulg.* 96, *Carlsbad salts* 146, *Chionanthus* 163, *Cocculus Cord.* 198, *Ferri Succin.* 287, *Hollurhena Antidys.* 329, *Hydrastis* 342, *Jatamansi* 426, *Jurubeba* 430, *Manaca* 473, *Manganese Dioxide* 476, *Pichi* 567, *Pilocarpine* 409, *Sanguinaria* 637, *Stillingia* 686.

IMPETIGO.

1. **Iodoform** is employed in that form of impetigo (*Impetigo Larvalis*) which is characterized by mattery yellow scabbed patches occurring on the faces of children and young adults. (a.) The scabs are to be softened by bathing them with soft soap and water and then completely detached and removed and then the raw surface is to be gently dabbed dry. (b.) The iodoform is to be in a very fine powder and freely dusted on. (c.) A layer of glycerine is then to be lightly laid over it. The process should be repeated every 2 hours if possible by the patient himself ; or if a child by his nurse.

2. Lassar calls attention to an old French formula, which he has found very useful and always harmless in certain chronic affections of the skin, particularly in impetiginous affections of the hairy regions :—

R Hydrarg. Sulphurati Rubri 1·0, Sulphuris Subl. 24·0, Adipis 75·0, Olei Bergamotæ gtt. aliquot.

3. Get off the scabs as they form, and apply to the surface beneath a very weak **ammoniated mercury** ointment.

4. F. 3. **Furunculosis**, pg. 968.

5. Acid Chrysophanic 11, Calamine, Hamamelis, Ol. Morrhuæ (1.), Quinine (1.), Ung. Creasoti, Ung. Hydr. Nitr., Ung. Hydr. Oxid. Rub, Ung. Iodoformi 460, Zinc Oxide.

IMPOTENCE AND STERILITY.

1. **Pil. Aphrodisiac No. 1.**—R Phosphorus gr. 1/100, Ext. Damianæ grs. 3, Ext. Nuc. Vom. gr. 1/16, Ferri Sulph. Exsic. gr. $\frac{1}{4}$. M. ft. pil. One after meal twice a day. When the increased warmth of the body and other symptoms indicate an excess of strength, take the pill one at night and then at long intervals. A well tried and effective sexual stimulant. Renovates impaired and broken down constitutions which may have been enfeebled by excess of any kind. It is especially useful for those suffering from spermatorrhœa and the consequent debility, as well as for married people suffering from lassitude and weakness or flabbiness of the parts.

2. **Pil. Aphrodisiac No. 2.**—R Ext. Damianæ, Ext. Cocæ, â â. grs. $1\frac{1}{2}$, Ext. Nuc. Vom. gr. 1/16, Ferri Sulph. Exsic. gr. $\frac{1}{4}$. M. ft. pil. One after meals. A sexual stimulant for those with whom phosphorus does not agree, having the same therapeutic action as the pill No. 1.

3. **Pil. Aphrodisiac No. 3.**—R Ext. Damianæ grs. 3, Phosphorus gr. 1/100, Ext. Cocæ grs. $1\frac{1}{2}$, Ext. Nuc. Vom. grs. 1/16. M. ft. pil. One after meal. Actions same as above.

4. R Phosphorus Mol. grs. 2, Ferri Redacti grs. 2, Sol. Cantharidis Conc. min. 1. P. Nuc. Vom. gr. $\frac{1}{2}$. M. ft. pil. One t. i. d. or 2 twice a day after meals. Very useful in premature failure of sexual power resulting from excess or self-abuse in early life, and in impotence induced by passive seminal discharges and in sterility. *Vide* F. 6. pg. 935.

5. R Ergotin grs. 2, Ext. Cannabis gr. $\frac{1}{2}$, Ext. Nuc. Vom. gr. $\frac{1}{2}$. M. ft. pil. One t. i. d. An aphrodisiac likely to be useful in premature failure of sexual power.

6. F. 1. **Spermatorrhœa.**

7. R Pil. Phosph. Mol. grs. $1\frac{1}{2}$, Ferri Arseniatis gr. $\frac{1}{4}$, Ergotini gr. 1. M. ft. pil. One t. i. d. after food. After having been

taken for 2 or 3 weeks it should be discontinued for a week, and a dose or two of Comp. Podophyllin Pills or some aperient mineral water taken. A good aphrodisiac, especially useful in functional impotence.

8. Aconitum Ferox, 22, Belladonna 82, (para 10,) Borax 108, (para 8 c.) Auri et Sodii Chloride 77, Capsicum 141, Damiana 233, Ergotine 248, Sanguinaria 637, Stillingia 685, Viburn. Prun. 723. For further *Vide Aphrodisiacs*.

INCOMPATIBLES.

1. Mr. Jos. W. England, of Philadelphia, recently read a paper on “incompatibility in prescriptions,” of which the following is an abstract of the more important points of practical value to the physician. In the first place, it is highly desirable to have information as to the solubilities of different salts. The following statements apply to the agents most frequently used :

Acetates are soluble. **Arseniates** are insoluble, except those of the alkali metals. **Arsenites** are insoluble, except those of the alkali metals. **Bromides** are soluble, except mercurous and silver; those of antimony and *bismuth* are decomposed by water to form oxysalts. **Carbonates** are insoluble except those of the alkali metals. **Chlorides** are soluble, except those of lead (*s*), mercurous, and silver. **Citrates** are soluble, except those of manganese, mercurous, silver, and strontium, aluminum (*s*), barium (*s*), bismuth (*s*), cadmium (*s*), calcium (*s*), lead (*s*), zinc (*s*). **Cyanides** are insoluble, except the mercuric, and those of the alkaline metals and earths. **Hydrates** are insoluble, except those of barium, strontium, calcium (*s*), lead (*s*), and the alkali metals. **Iodides** are soluble, except those of antimony, bismuth, gold, lead (*s*), mercuric, mercurous, platinum (*s*), and silver. **Nitrates** are soluble. **Oxalates** are insoluble, except those of antimony (*s*), chromium, ferric (*s*), ferrous (*s*), stannic, and the alkali metals. **Oxides** are insoluble, except those of barium, strontium, calcium (*s*), and the alkaline metals. **Phosphates** (ortho) are insoluble, except those of the alkali metals. **Sulphates** are soluble, except those of barium, strontium, calcium (*s*), antimony, lead, mercurous (*s*), and

silver (s). **Sulphides** are insoluble, except those of barium, calcium (s), strontium, and the alkali metals. **Sulphites** are soluble, except those of aluminum, antimony, barium, calcium (s), cobalt (s), copper, ferrous (s), lead, manganese (s), nickel (s), silver, stannous, strontium, and zinc (s). **Tartrates** are soluble, except those of antimony, barium, bismuth, cadmium (s), calcium (s), copper, ferrous (s), lead, manganese (s), mercuric, mercurous, nickel (s), silver, strontium (s), and zinc (s).

Acids decompose hydrates, carbonates, and acid carbonates to form salts; the stronger acids, which are largely inorganic, set free the weaker acids, which are largely organic, or, brought in contact with alcohol or alcoholic solutions, form ethers; **alkaline hydrates, carbonates, and acid carbonates** neutralize free acids, decompose some glucosides, and precipitate all alkaloids, some of which precipitates are soluble in excess of the precipitant, or in alcohol, if that liquid be present in sufficient amount to dissolve them.

Oxidizing agents, such as nitric, hydrochloric, nitrohydrochloric, picric, and chromic acids, and potassium bichromate and permanganate, with readily oxidizable substances, such as carbohydrates, alcohols, ethers, sulphur, phosphorus, sulphides, tannin, glycerine, the hypophosphites and organic matter in general, form explosive compounds. **Potassium permanganate**, if ordered in pill form, can best be made with cacao-butter, and cosmoline in very small quantity, and enclosed in gelatin capsule. (*Vide* pg 553.) Silver nitrate is reduced by organic matter to oxide, with the exception, it is said, of opium and extract of hyoscyamus. A very good way of making pills of it is with cacao-butter and cosmoline, etc., as mentioned above, under potassium permanganate; **syrup of ferrous iodide and potassium chlorate** form a poisonous compound; and **potassium iodide and potassium chlorate** form a mixture which yields the poisonous iodate on being taken internally.

Iodine and the iodides yield precipitates with the alkaloids; **bromides** precipitate morphine and strychnine salts on standing, but a few drops of dilute hydrochloric acid added, after

the addition of the alkaloid, prevents the change. **Sodium biborate** precipitates morphine and cocaine salts ; but, on the addition of a small quantity of boric acid, or with boric acid alone, precipitation does not take place. **Mercuric chloride**, with acidulated solutions of the alkaloids, forms crystalline double salts ; **potassium-mercuric iodide** precipitates alkaloidal solutions. Solutions of **quinine salts**, with those of the alkaline acetates, or with Basham's mixture, precipitate the sparingly soluble quinine acetate. **Morphine** solutions give the phenol reaction, if mixed with tincture of **ferric chloride**.

Glucosides are decomposed by free acids and precipitated by tannin ; tannic and gallic acids precipitate alkaloids, albumen, gelatin, and the majority of metallic salts, and yield inks with iron solutions.

Resinous tinctures and fluid extracts, prescribed with aqueous solutions, should always be emulsified with acacia ; tinctures and fluid extracts made of stronger alcohol, mixed with those made of diluted alcohol, become turbid and precipitate, since the special solvent power of alcohol, or of water, for a substance diminishes in proportion to the quantity of the other liquid present. A "*shake*," label should always be used.

When for internal use, **fixed and volatile oils and oleo-resins, and aqueous solutions**, should always be emulsified, whether ordered or not, and, to better emulsify the volatile oils, they should have mixed with them, prior to emulsification, an equal volume of olive, almond, or cotton-seed oil.

Tincture of ferric chloride gelatinizes mucilage of acacia ; free acids separate insoluble carminic acids from compound tincture cardamom ; free acids precipitate glycyrrhizin from fluid extract of licorice.

Commercial spirits of nitrous ether liberates iodine from solutions of iodides, decomposes **antipyrin solutions** to form a **green nitro-derivative**, and precipitates mucilage of acacia ; but, if it be well diluted with water, it can usually be added last without precipitating. **Tincture of guaiac** and **spirits of**

nitrous ether are stated to be pharmaceutically incompatible by Potter (although they are often prescribed together), likewise infusion of wild cherry with compound infusion of gentian, infusion of cinchona with compound infusion of gentian, and infusion with metallic salts generally.

Sodium salicylate in solution precipitates the sparingly soluble salicylic acid if mixed with acids, and yields, if dispensed in powders with potassium acetate, the very deliquescent potassium salicylate. Sodium salicylate in strong solution is decomposed by tincture of ferric chloride; but, if well diluted first, changes only into ferric salicylate. *Sodium benzoate* solution is decomposed by acids to yield the sparingly soluble benzoic acid.

Mercuric chloride is decomposed by solution of potassium arsenite; but, if the alkaline solution has first added to it, in slight excess, diluted hydrochloric acid, no precipitation will take place on the addition of the mercurial salt; pyrophosphate and phosphate of iron solutions precipitate with dilute phosphoric acid. The *National Formulary* recommends the usage of dilute metaphosphoric acid, in place of the officinal "ortho" variety, as yielding a permanently clear solution.

2. The following is a complete list of many important and commonly employed new and old drugs with their incompatibles; those already mentioned in Dr. Meadow's Prescriber's Companion, &c., are not mentioned in this list:—

Amygdalæ mistura : acids and all acidulous salts; spirits; tinctures; spr. æth. nitrosi; undistilled water.

Anthemidis infusum : isinglass; infus. cinchonæ; ferric sulphate; argentic nitrate; hydrargic bichloride; plumbic acetates.

Antipyrin : *Vide* pg. 64.

Antiseptics.—The following antiseptics are incompatible: Corrosive sublimate and iodine; carbolic acid and iodine; carbolic acid and pot. permanganate; permanganate of potash and oil, soap, or glycerine.

Armoraciæ infusum : infus. gallæ and cinchonæ; alkaline carbonates; argentic nitrate; hydrargic bichloride.

Arseniciet Hg. iodid. : morphia salts.

Aurantii comp. infusum ; aqua calcis ; infus. cinchonæ ; ferric sulphate ; plumbic acetate.

Balsama (Benzoic, Peruv., Tolu., Copaibæ, &c.) : acids ; alkalies.

Barii liq. chlo. ; alum ; argentic nitr ; potassic nitrate ; sodic sulphate.

Calcii liq. chloridi : Sulphuric and nitric acids ; potassa, soda and their carbonates ; potassic and sodic sulphate ; potassic nitrate ; borax.

Calcis Liquor : acids ; alkaline carbonates, tartrates, citrates ; tartar emetic ; infusions of orange peel, calumba, cinchona, rhubarb, and senna.

Camphoræ spiritus : water in any form.

Capsicum : argentic nitrate ; alkaline carbonates ; plumbic acetates ; hydrargic bichloride ; cupric, ferric and zincic sulphates.

Cherry laurel water :—It is dangerously incompatible with morphia ; an insoluble cyanide of morphia is formed, which is precipitated and so with the last dose patient takes the toxic dose of morphia and hydrocyanic acid. Addition of 5 or 6 drops of hydrocyanic acid will prevent formation of cyanide.

Chloral Hydrate :—Alkalies ; it cannot be long kept in aqueous solution, as it decomposes and becomes acid.

Chloroform in a mixture containing an *alkaloid* will dissolve it and settling to the bottom of the bottle may cause an *excess of the alkaloid* to be given with the last dose.

Emetina : all vegetable astringents.

Explosives : potassic bichromate, or permanganate with glycerine ; pills of “ ext. nucis vomicæ, argenti nitras, morphiæ murias, gentianæ ext., et rosæ confectio ” ; pill of “ argenti nitras and creasoti,” or “ argenti nitras cum acido carbolico ” ; all these pills contain the oximuriate of potassium.

Glycerina : calcic chloride ; potassic permanganate ; chromic acid ; these, and other oxidants, form explosive compounds.

Granatum : plumbic acetates ; argentic nitrate ; ferric iodide, and sulphate.

Hydrogen Peroxidum : vegetable tinctures ; alkaline citrates and tartrates ; ferric salts ; hydrocyanic acid ; sulphates ; chlorides ; nitrates.

Ichthyocolla : alcohol, infus. astringents ; potassic carbonates

Iodine in contact with *ammoniacal compound* forms iodide of nitrogen, a violently explosive substance. It should not therefore be prescribed in *liniments with ammonia* nor in *ointments with white precipitate*.

Quiniæ sulphas ; alkalies and their carbonates ; lime ; lime-water ; salts of baryta and lead ; argentic nitrate. *Vide* pg. 599.

Rhei infusum : isinglass ; mineral acids ; argentic nitrate ; plumbic acetates ; ferric sulphate ; tartar emetic ; magnesia ; hydrargic bichloride ; infus. cinchonæ.

Salix : aq. calcis ; ferric sulphate ; alkaline carbonates ; isinglass.

Sapo : acids ; earths ; alum ; metallic salts ; astringents ; hard water.

Scilla : alkaline carbonates ; aqua calcis ; argentic nitrate ; plumbic acetates ; gelatin.

Sennæ infusum : all potassic salts.

Serpentariæ infusum : mineral acids ; aqua calcis ; alkaline carbonates ; argentic nitrate ; plumbic acetates ; hydrargic bichloride ; infus. cinchonæ ; tartar emetic.

Sodæ Phosphas ; alum ; calcic carbonate ; all salts with an earthy base.

Sp. Ammon. Aro : aq. calcis ; acids ; acidulous and metallic salts.

Tamarindus : potassic and sodic carbonates and acetates ; infus. sennæ ; resinous cathartics.

Violæ Syrupus : acidulated and alkalized fluids destroy its blue colour.

Yerba Santa : *vide* page 745.

INFLAMMATIONS.

Aconitin 23, Antimony 56, Belladonna, Collodion 212, Gelsemium 300, Hamamelis 321, Hydrastis 344, Ichthyol 369 and 373, Jaborandi 403 and 404, Jamaica Dogwood 423, Menthol 492, Ol. Bismuth 517, Ol. Hydrarg. 333, Ol. Plumbi 518, Pulsatilla 582, Resorcine 612.

INFLUENZA (LA GRIPPE).

1. Summary of treatment adopted during the last epidemic :—

In the majority of cases *diaphoretics* were best. Where arthritic complication existed, *salicylate of soda* was indicated. *Salicine* in large doses, as recommended by Dr. MacLagan, seemed also useful in relieving the early pain and fever. For severe headaches and neuralgic pains, *bromide of ammonium* with *henbane*, *exalgine* in doses of 2 to 4 grs., *antipyrin* or *phenacetine* were very useful. The drugs employed to control fever were *antifebrin*, *phenacetin*, and especially *antipyrin* and *quinine*. For the paroxysmal cough *turpentine* inhalations were found useful. In severe biliary derangements, either *cholagogue purgatives* or an emetic of *Ipecacuanha*, followed by an effervescing mixture with hydrocyanic acid, were employed with success according to the indications of the case. Great importance was attached to the diet and to the necessity of the patient keeping to his room until convalescence was well established. The *conjunctivitis* is very amenable to treatment, yielding best to large doses of *hydrobromate* or *Sulphate of quinine and antipyrine*. Locally ordinary astringent collyria suffice as long as the conjunctiva only is affected; when anæsthesia, with desquamation of the epithelium is present the use of *eserine* and *cocaine* alternately is beneficial. When the sensibility of the non-ulcerated part of cornea has been lessened the *yellow oxide of mercury* ointment is introduced twice a day. Warm fomentations are useful throughout.

2. Brigade-Surgeon J. B. Hamilton has found that the local application of grs. 20 sol. argent. nitr. to the congested throat with swelling of the uvula and tonsils, with grs. 10 of quin. sulph. morning and evening, combined with an expectorant when required, is the best treatment; such was the treatment adopted in the recent epidemic of influenza among the English troops at Lucknow.

3. The following treatment is employed in hospitals and private practice in Germany and Russia :—

(a.) R Antipyrin grs. 10, Codeinæ gr. $\frac{1}{6}$, Sodæ Bicarb. grs. 10. M. ft. pulv. One every 2 or 4 hours as indicated. (b.) **Nasal trouble** is treated with lanolin ointment, containing menthol and cocaine. (c.) A spray of Vin. Ipecac. and a dose of Dover's powder at bedtime, nips the affection in the bud. (d.) Quinine and tonic meat and wine preparations after acute stage is passed are indicated.

4. M. H. Huchard speaks of nervous prostration as being a chief clinical characteristic of *severe cases of influenza*, requiring for its treatment quinine, alcohol, and, in bad cases, even injections of caffeine and ether. Quinine, he says, is indicated on account of the markedly remittent type of fever, and to moderate the evening exacerbation it suffices to give a full dose (5 to 15 grains) of the sulphate of hydrobromate in the morning. Smaller doses more frequently taken are useful for their tonic rather than antipyretic effect. In the *neuralgic or rheumatoid form of influenza*, antipyrin (15 grains), combined with bicarbonate of sodium ($7\frac{1}{2}$ grains), is recommended by M. Huchard, to be taken every four hours, or, instead of antipyrin, phenacetin, or salol (7 grains). Influenza often assumes a *broncho-pulmonary form*, and in certain cases is very grave. In the epidemic of "la grippe" in 1886, recorded by M. Menetrier, the pneumonic forms were very asthenic. In such cases, tonics, milk, alcohol, and, in fact, general restorative measures are indicated rather than local applications to the chest. If the dyspnœa became severe, and the condition termed by Graves "pulmonary paralysis" ensues, then strychnine is of value ; or, in case of impending asphyxia or renal asthma, venesection ; but when the asthenia itself threatens life, there should be no hesitation at resorting to hypodermic injections of ether, and especially of caffeine. For the *gastro-intestinal form*, mild aperients, ipecacuanha, and the use of salicylates of bismuth or of magnesium, naphthol, or iodoform to promote intestinal antiseptis, are indicated.

5. (Sp.) R Cocaine gr. $\frac{1}{6}$, Quin. Sulph. grs. 2, Acetanilid grs. 2. M. ft. pil. Has been given with a promising result in a number of cases of influenza. Acts as a complete antipyretic, anodyne and restorative.

6. R Sp. Ether. Nitr. drs. 2, Vin. Ipecac. drs. 2, Syr. Hemidesmi oz. 1, Inf. Lini ozs. 8. M. $\frac{1}{4}$ th part every 4 hours. Along with this a vapour or hot air bath, with sinapism to the chest and occasional inhalations of menthol.

7. **Sulphonal** given in very small portions several times during the day, as 5 to 8 grs. t. i. d., has proved very beneficial in relieving the derangement of the nervous system, as sleeplessness and nervous discomfort and headache, accompanying influenza.

8. **Juice of oranges** in large quantities, not of two or three, but of dozens, is a simple, effective and real remedy, irrespective of disinfectants and inhalations (Dr. C. de Lacy Evans).

9. (Sp.) **Inhalation of Eucalyptus Oil** acts as a preventative of influenza based on the germ theory; and when combined with ammonia acts as a best inhalant and is vastly superior to menthol.

10. Ammonia, Antimony, Cinchon. Salicyl., Euphorbia Pilulif. 276, Grindel. Rob. 309, Jaborandi 402, Lobelia, Menthol 487, Methacetin 495, Ol. Pini Pumil. 525, Salol, Sanitas Oil 642, Warburg's Tincture 734.

INHALATIONS.

1. Acid Carbolic 8, Acid Hydrofluoric (a tablespoonful into rather less than 2 quarts water), Æther 27, Amyl Nitrite 45, Antipyrine 59, Chekan 161, Chloroform 169, Eucalyptus 258, Eucalyptine 260, Iso-butyl Nitrite 399, Menthol 486-7, Methylal 496, Mullein 498, Nitrogen Binoxide 764. Ol. Pini Pumil. 525, Ol. Pini Sylv. 527, Oxygen 531, Pyridine 596, Quinine 596, Sanitas Oil 642, Terebene 703, Thymol 710.

2. The following is a list of **medicinal inhalations or vaporoles** of the London Throat Hospital :—

No. 1, Carbolic Acid, 20 minims; No. 2, Ether, 30 m.; No. 3, Amyl Nitrite, 5, m.; No. 4, Tinct. Benzoin Co., 30 m.; No. 5, Chloroform, 30 m.; No. 6, Creasote, 10 m.; No. 7, Cubebs and Lemon, 5 m.; No. 8, Tinct. Iodine, 10 m.; No. 9, Juniper, $2\frac{1}{2}$ m.; No. 10, Terebene, 10 m.; No. 11, Pinol, 10 m.; No. 12, Eucalyptus, 10 m.

INSANITY.

Acute and Chronic Mania.

Actæa Rac., Bellad., Bromides, *Camphor-Chloral* 134, Cannabis 139, Cannabinon, *Cannabîn Tannate* 140, *Coninæ Hydrobrom.* 214, Digitalis, Duboisia 240, Ergot 242, *Gelsemium* 297, Hops, *Hyoscyamine* 359, *Hyoscine* 361, *Jamaica Dogwood* 412, *Paraldehyde* 545, Strammonium, *Sulphonal* 694, Urethane 716, Veratrum Viride.

Dementia.

Hyoscyamine 359, Methylal 496, *Paraldehyde* 545, *Sulphonal* 695.

Melancholia.

Absinthe, Actæa Rac., Auri et Sod. Chloride 77, *Caffeinæ Citras*, 127, Camph. Monobrom., Cannabis Ind., Chloral, *Coca* 179, Ignatia, Ferri Perchloride, *Jamaica Dogwood* 414, Liquid Acid Phosphate, Opium (in stimulant doses), *Paraldehyde* 545, Pot. Bromide, *Sulphonal* 695, Valerian, Urethane. *Vide Hypochondriasis.*

Other forms of insanity.—*Hyoscyamine* 359, *Jamaica Dogwood* 414, *Paraldehyde* 545, Methylal 498, *Sulphonal* 695.

INSOLATION (SUNSTROKE).

1. **Preventive Treatment.**—*Protect* head and spine from direct rays of sun by proper *solar hats*, light clothing (*fine woollen* is best) and *cotton pads* over the spine. Precaution against over fatigue and exertion either physical or mental, freedom from excitement on one hand or depression from fatigue or want of food on the other are desirable. *Rooms* should be *well ventilated* and atmosphere kept as pure as possible by constant ingress and egress of air. *Punkahs* should be kept freely going, and *windows open* during hot still nights. Body should be protected by *light woollen covering* to protect against sudden alterations of temperature. *Excess of animal food and alcoholic drinks* should be avoided. Depression from want of food is equally to be deprecated. A moderate amount of physical exercise and mental occupation should be encouraged.

2. In cases of **simple heat exhaustion** *remove the person to a cooler place in the shade*; let a *douche of cold water* fall from a height

on his head and chest, *not too prolonged* so as to depress. Remove all tight and oppressive dressing. Apply *ammonia* to nostrils and give a slight *stimulant*; *sinapisms* may be applied to the various parts of the body, legs, abdomen, and *stimulating enemata* may be useful. If depression be prolonged, treat as for ordinary *faint* (*vide* pg. 947). Future *exposure to the sun* should be carefully guarded against and unless recovery be complete, the sufferer should be removed to a *cooler climate* and protected from *excitement of mind and body*, whilst the greatest care is taken to avoid all *errors or excess of diet or stimulant*.

When a man is **struck down by the hot sun**, use *cold douche freely*—object is two fold—to *rouse by reflex action* and to *reduce temperature* as soon as possible before tissue changes have been caused. As the *hyperpyrexia* is due not only to the direct action of heat on the centres, blood and tissues, but to the vaso-motor disturbance, remedies that may influence this are indicated; and therefore *quinine and morphia used hypodermically* reduce blood pressure and temperature. The bowels should be relieved by *purgative or enematas*. *Sinapisms to the chest* are useful. Bleeding has been abandoned except in rare and peculiar cases. Other principal drugs are *Salicine, Salicylate of Soda, Quinine, Pot. Bromide, Ergot* (*vide* pg. 243), *Digitalis and Acetate of Ammonia*. *Salicine* seemed to agree best during the period of *headache* but the *Quinine* seemed most serviceable when this passed off. If anything the cases treated with *Quinine and Pot. Bromide* gave the most favourable results. As the case progresses, if symptoms of intracranial mischief supervene, indicating *meningeal inflammation*, *Iodide and Bromide of Potassium* and counter-irritation may be of service (Sir Joseph Fayrer).

3. Give *Pot. Bromide* dr. 1 to drs. 2 during the first hour and dr. 1 every hour or $\frac{1}{2}$ dr. every half hour largely diluted in *Aqua Menthae Pip.* Apply *Sulphuric Ether* freely to head and spine and fanned away till 6 ozs. are used. Apply ice at same time to arms, wrist, abdomen, over heart, legs, and *in extreme cases of comatose collapse* inject ice cold water into the bowels with *Ginger and Capsicum*, but ordinarily give by rectum 200 grs. of *Pot. Bromide* in moderately cold water. (Dr. C. H. Hughes).

4. *Antipyrin* 51 (line 5th), and 58, *Apomorphia* 67, *Ergotine* 249, *Gelsemium* 299, *Menthol* 486, *Phenacetin* 555.

INSOMNIA (SLEEPLESSNESS).

1. (Sp.) **Cold bandaging of the leg.**—Dr. Van Gellhorn has found the following plan very useful in inducing sleep in persons who suffer from insomnia. A piece of calico, about 18 inches wide and $2\frac{3}{4}$ yards long, is rolled up like a bandage and a third of it is wrung out of cold water. The leg is then bandaged with this, the wet portions being carefully covered by several layers of the dry part, as well as by a layer of gutta percha tissue and a stocking down on the whole. This causes dilatation of the vessels of the leg, thus diminishing blood in the head and producing sleep. This method is employed by the author for a couple of years and finds it useful in cases where there is congestion of cerebral vessels. Sometimes he has found it necessary to reapply bandage every 3 or 4 hours as it dried.

2. (Sp.) **Warm baths** produce a calming effect, and tend to produce sleep, and in patients where a sedative effect is desired and yet where a bath is inapplicable, Alldorfer has applied such a method as follows :—It consists in *wrapping the lumbar region and belly with linen cloths soaked in warm water*, and then covering them with *oiled silk or rubber-cloth*, so as to prevent evaporation, while the whole is kept in place and loss of heat prevented by a flannel cloth. This procedure is of ready performance and the author says that by this simple means he has obtained the *most astonishing results* in the treatment of insomnia.

3. (Sp.) Testimony of the value of **passiflora incarnata** in cases of insomnia, accompanied by great nervousness, comes from many quarters. It produces a quiet, soothing sleep, and yet is not a narcotic, as the patient may easily be awakened from it and his mind is perfectly clear, yet he falls at once again into a sweet sleep. Ten, twenty, or thirty drops of the tincture constitute a dose.

4. R Antipyrin grs. 6, Acetanilid grs. 2, Syr, Aurantii dr. 1, Aquæ ad oz. 1. M. Give every hour till sleep is produced.

5. Dr. D. J. Leech gives the following **order of potency of the new hypnotics** :—Sulphonal, Amylene Hydrate, Paraldehyde, Urethane, Methylal, &c.

6. For further *vide* **Hypnotics, Soporifics, and Narcotics**, pg. 796-7.

INTESTINAL DISEASES.

ACUTE & CHRONIC INTESTINAL CATARRH.

Betol, Manaca 472, Naphthalin 503, Pancreatin 534, Papain 538, Pot. Bichromate 573, Quebracho, (para 3) 591, Resorcine 608, Salol 631-2, Sanguinaria 637, Sodii Benzoas, Sodii Creasotinas 661, Water Melon Juice 737.

INTESTINAL HEMORRHAGE.

Rhus Aro. 615, Saw Palmetto 650. *Vide* pg. 961 and 992.

INTESTINAL OBSTRUCTION.

1. **Abdominal Taxis.**—This method may be tried before further surgical treatment is contemplated. The directions for the carrying out of the method are laid down as follows :—

The patient being fully under the influence of an anæsthetic (with the bowels and bladder empty), the surgeon will forcibly knead the abdomen in all directions ; next, he is held by four strong men in the prone position, and forcibly shaken backwards and forwards. Shaking in a vertical plane is now practised, the patient being held by the feet uppermost, and in this position copious enemata are administered. The whole proceeding should not last less than from half to three-quarters of an hour. Reports of 4 cases follow in which this method was adopted with success, commenting upon which Mr. Hutchinson says that in his experience at the London Hospital he never encountered a case in which the post mortem made him regret that he had not opened the abdomen ; in other words, he never had a case of strangulation, by a band or other means, which would have been susceptible of definite relief by operation.

Further details of treatment in cases of intestinal obstruction are briefly noted, attention being drawn to the fact that, only in the single group of cases wherein peritonitis simulates obstruction is it likely that the surgeon will regret having had recourse to Hutchinson's method. The measures advised are :—

The use of an anæsthetic, under the influence of which the patient's abdomen is to be thoroughly examined, enemata are to be given, and

abdominal taxis practised in full detail. If now the symptoms remain unrelieved, and no diagnosis is arrived at, in most cases the surgeon will wait putting the patient on a starvation regimen, and noting the development of symptoms. If, after recovery from anæsthesia and taxis, the symptoms are severe, an explorative laparotomy is advised. When conditions point to the presence of gall-stones, no operation is justifiable. If malignant stricture is diagnosed, colotomy must be performed, preferably on the right side. Should peritonitis be suspected as the cause of symptoms, incision and washing out the abdominal cavity are allowable.

When the case has persisted long, and the diagnosis still remains in doubt after the performance of taxis, there is the choice of three methods :—(1.) The rest ; opium and starvation plan (Sydenham's). (2.) Entire absence from mouth feeding, but free use of nutritive enemata. (3.) Repeated recourse to taxis, with large enemata. Mr. Hutchinson thinks that it is impossible to speak with confidence as to the relative superiority of any one of these methods. After quoting several cases, under the author's own care and that of others, Mr. Hutchinson lays stress on the dangers of diagnostic laparotomy, which he thinks are often overlooked. He believes that abdominal shock is much greater in these cases than in such operations as ovariectomy ; also that the difficulty of returning the gut is a serious danger.

2. Injection of Ether.—Dr. Clausi mentions two cases of **intestinal obstruction** which were successfully treated after ordinary methods of treatment had failed, by injecting as high as possible into the bowel, by means of a long india rubber tube, a mixture of three ounces of sulphuric ether with twelve ounces of fennel water. The injection produced a feeling of warmth all over the body with eructation of gas smelling strongly of ether, immediately after which a copious stool was passed, and all the symptoms of obstruction came to an end.

3. Dr. Kollman mentions a case of **occlusion** of the small intestine in an old woman, who, after opiates and morphia injections had been unsuccessfully given in order to arrest the violent vomiting, showed signs of such extreme weakness that operative measures were out of the question. He therefore determined to act on the lower part of the bowel by means of **glycerine injections**, while keeping the

upper part of the intestinal tract quiet by the administration of ice and by ice-cold applications over the stomach. In this way the peristaltic action of the gut below the spot where the obstruction existed was stimulated while the part above this was kept at rest. The result was satisfactory, for on the second day a motion was passed and the patient recovered.

4. **Intussusception.**—Dr. Brinton has collected from various sources 500 cases in which there was fatal intestinal obstruction, 215 of them being due to **invagination of the intestines**. The methods which are commonly used for the relief of this trouble consist in the *introduction into the bowel of an elastic bougie*, as far as may be necessary or suitable, *the injection per rectum of a large quantity of hot water*, or *the injection of air*. The latter method has frequently been tried in children, and has frequently been successful, especially if an anæsthetic has been used as an adjuvant. Operations of this character must neither be of too long duration, nor should they be attended with much violence. It may be necessary to repeat the operation several times, and the possibility of rupturing the intestines must ever be considered.

5. Massage 479-80, Pancreatine 534, Salol (for diagnosis) 634.

TYPHLITIS.

Massage 479 and 481.

INTESTINAL ULCERATIONS.

Bismuth Oxyiodide 104, Hamamelis, Hydrastine, Iodoform, Iodol, Naphthalin, Resorcine, Phytolacca 565, Salol.

IRITIS.

Pupil should be completely dilated by *atropine* and if the action of the atropine instillation be not powerful enough, 2 drops of a 5 per cent. solution of *cocaine*, seems to double the action of that alkaloid. If the pupil should nevertheless remain contracted and the corneal injection cause ecchymosis, *leeches* or *cups applied to the temple* are advisable. The *inunction of a belladonna ointment into the temples* will be found

useful in every case, regardless of its origin. *Excessive pains* call for *injections of morphine* or for *chloral*; *warm compresses* to the eyelids are an especially grateful application. These are the outlines of the general treatment of iritis when definite causative data are absent.

If a *specific nature of the affection* be established or suspected, *mercurial inunctions* and Pot. Iodide internally (30 grs. daily) are to be insisted upon. In absence of any specific taint, we can often detect a *rheumatic* element; then *salicylate of sodium* is to be exhibited. Additional relief will always be afforded by warm baths, dry frictions and air baths. Cases of *tertiary syphilis* presenting iritic symptoms require the hypodermic employment of *corrosive sublimate*. In absence of all etiological indications in what is termed simple iritis, *mercurial inunction* and potassium iodide are still useful as interstitial absorbents. Therefore if a rheumatic diathesis cannot be ascertained, the specific treatment is invariably to be resorted to first.

2. Antipyrin, Atropinæ Santonate 84, Cocaine 186, Daturine, Duboisine, Gelsemine, Grindelia Rob. 310, Homatropine, Jamaica Dogwood 420-1, Phenacetine 557, Scopolene 653, Tonga 711.

KELOIDS.

Arsenic (I.); Ichthyol 367.

KERATITIS.

1. **Keratitis in children.**—For **phleetenular Keratitis** which occurs in small isolated or confluent bullæ on cornea, introduce a small piece of size of wheat of the following ointment once daily in eye :—

R Hydrarg. Oxid. Flav. grs. 4, Vaseline grs. 75. M. Also three times daily compresses should be applied moistened with a solution of *Boric Acid* 16 grs. to an ounce. A bandage should not be employed as it tends to increase blepharospasm. For pain an ointment composed of 3 parts of *Ext. Bellad.* to 10 of *Mercurial Ointment* may be rubbed around orbit morning and evening. Internally give *Cod Liver Oil* to combat scrofula. **In ulcerating Keratitis** characterized by lachrymation, photophobia and extreme pain in which there

is loss of substance in cornea, apply warm compresses of solution of *Boric Acid* or in severe cases wash eye every hour with a solution of Hydrarg. Perchl. 4 grs. in 14 drs. of water. Also put in eye drops of Eserine and at night an ointment of 1 part of Iodoform to 10 of Vaseline.

2. **In interstitial keratitis**, benefit follows from exhibition of iodides and iodine. After a mild mercurial course, syr. ferri iodide given in full doses (or the syrup of hydriodic acid, if iodide be not well borne) has the best effect. Certain cases of syphilis in which iodides have little effect, iodoform is given internally in doses of gr. 1 to grs. $1\frac{1}{2}$ t. i. d. It is continued unless it is contraindicated by fulness of head or headache. Locally a weak solution of atropine is indicated. (Dr. M. Jones.)

LACTATION.

When defective lactation is due to **plethoric state** of body, a carefully regulated diet, *avoidance of stimulants*, with milk as a leading article, plain but nutritious food and the occasional administration of *Castor Oil* will soon remove obstruction. When due to **anæmia**, in a large number of cases suckling must not be thought of, but there are some cases where suckling is necessary, the anæmic condition being overcome by a liberal diet and use of some preparation of *iron* (*vide* pg. 816). When due to *torpor of the mammae*, apply electric current several times daily for 15 to 20 minutes. *Irritation of the nipples*, *warm poultices* (*vide* F. 5, pg. 796) the *breast pump* or cupping and some **galactogogues** (q. v. pg. 795-6) are useful in this state.


Dietary on the Salisbury plan.

Food should be pure, seasonable, healthy, properly cooked, regularly taken and liberally eaten. While food should not offend the senses, it should contain all the elements found in the infant body, be rich in blood, nerve, bone, muscle, vascular, glandular and respiratory elements. In other words as we feed kine for milk, birds for health and horses for work, by giving them their natural food, so we should feed nursing women on their natural food, to wit, $\frac{2}{3}$ animal and $\frac{1}{3}$ vegetable (Salisbury). Besides it is better to live on the diet during gestation.

List of Foods.

Animal Food.—*Milk, butter, eggs ; cream, cheese. Beef steak, suloin steak ; porter house steak ; roast beef ; corned beef, beef tongue ; ox tail ; calves feet and heads ; pork flesh and salt ; pig's feet and heads ; sausages. Chicken ; gheese ; pigeon ; squab.* Fish of all kinds, marine or aquatic ; *salmon ; eels ; haddock ; scup, perch, halibut ; sword fish, cusk ; clams, clam water ; shell fish ; oysters ; scollops ; shrimps.*

Vegetable Food.—Wheat, whole, cracked, crushed and baked like oatmeal ; Arlington wheat meal ; *Franklin mills entire flour ; cold blast ; Graham flour ; oats ; rye ; maize ; buckwheat ; peas.* Cabbage ; tomatoes ; celery ; onions ; spinach ; lettuce ; dandelion ; parsley ; radish ; cranberry ; turnip ; squash ; carrot. Pickles. Fruits ; apples. Irish moss.

 **NOTE.**—The patient is not expected to eat every thing on the list in order but to make selections according to will but the articles printed in *italics* are preferable.

LARYNGISMUS STRIDULUS.

Antipyrin 60, Cheekan 161, Coninæ Hydrobrom., Hydrarg. Subsulph., Hyoseyamine 359, Pot. Bromide 111, Quinine. *Vide Convulsions* pg. 875.

LARYNGITIS.

Simple Laryngitis.—*Acid Camphoric 8, Aconite, Cheekan, Eupatoreum Ayapana, Evening Primrose, Ferri Perchl. (chronic), Grindelia Rob., Hydrastine 349, Menthol, Ol. Pini Syl. 527, Pot. Sozoiodol 671, Pumiline 525, Saw Palmetto 527, Sod. Sozoiodol, Sanitas Oil 642, Thymol 710, Yerba Santa 743. Vide Croup.*

Tubercular Laryngitis.—Beta-naphthol camphor 101, Menthol 488.

Edematous Laryngitis.—Ethyl Iodide 256.

Spasmodic Laryngitis.—Euphorbia Pilulif 276.

Other laryngeal affections.

Ichthyol (**hyperæmia**) 371; Grindelia Rob. with Ammon. Bromide (**irritation**) 311; Hamamelis (**relaxation**) 321; Iodol (**ulceration.**)

LARYNGOSCOPY AND INTRALARYNGEAL OPERATIONS.

Cocaine 188.

LEPRA.

1. In *Superficial variety of lepra erythematosus* Dr. During recommends the two following formulæ :—

(a.) R Zinci Sulph., Pot. Sulphuret, â â. drs. $1\frac{1}{2}$, Aquæ Rosæ ozs. 4. M. To be shaken and applied several times a day 5 to 15 minutes at a time.

(b.) R Ol. Cadini, Alcohol, Saponis Virid. â â. drs. 4. M. To be rubbed in morning and evening.

2. F. 1 **Dermatology.** F. 17. **Eczema.**

3. Acid Carbolie (E.), Arsenici Iodidum (I.), Burdock (I.), Dulcamara (I.), Glycerine (E.), Ichthyol 367, Lanolin, Pix Liq. 570, Pot. Sulphurata (E. and I.), Resorcine 610. *Vide Psoriasis.*

LEPROSY.

1. Surg. Major T. C. Peters had treated in India 29 lepers—18 men and 11 women. The method consisted in daily frictions with **Carbolic Acid** (1 in 40), followed by soap and a warm bath. The ulcers were covered with cotton soaked in an emulsion of one part of **Gurjun Oil** in three parts of **Lime-Water**, the cotton being kept *in situ* by a bandage. Tubercles and anæsthetic parts were touched daily with **Cashew Nut Oil** (*Anacardium Occidentale*) until ulceration was produced. The Gurjun Oil emulsion was then applied. Five mins. dose of **Chaulmoogra Oil** was given with five-grain dose of Sod. Bicarb. in an ounce of Peppermint Water, and this mixture was found useful as an alterative and tonic stimulant.

2. Surgeon General W. Johnston, M.D., envelopes the patients in a vapour proof envelope, of sufficient capacity to retain the body except the head, that part through which the neck protrudes grasping it to prevent escape of vapour. A vessel of sufficient size to contain a quart of liquid, and made with a lengthened curved spout to fit accurately on an elastic tube of sufficient length to pass within the vapour proof covering, will complete the apparatus. The tube should be such as would allow a continuous and abundant supply of vapour from the vessel, (charged with **Carbolic Acid** 3 parts, Water 6 or 7 parts), resting on a spirit lamp with flame sufficient to keep the fluid boiling briskly. Sponging the body with tepid water, having a little washing soda dissolved in it, would allow of the better absorption of the vapour. Results in the various stages of the disease were satisfactory.

3. R Pyrogallol 5, Ichthyol 5, Acid Salicyl. 2, Vaseline 100, parts.
M. For leprous infiltrations on the face. (Dr. Unna). *Vide* Ichthyol pg. 367.

4. *Acid Gynocardic* 160, Acid Salicylic 19, Arsenic, Bhawachee 102, Burdock (I.), *Chaulmoogra Oil* 159, Calotropis Gig. (I. and E.), Gurjun Balsam 316, Hoang Nan 327, Hydnocarpus Oil (I. and E.), Hydrocotyle Asiatica, 353, Ichthyol 368.

LEUCOCYTHEMIA (LEUKÆMIA.)

Cinchona, Cod Liver Oil, Iron, Oxygen Inhalation 531, Quinine, Phosphorus.

LEUCODERMA.

1. (Ind.) R Cassia Tora seeds 20, Bhawachee 20, Azadiracta Ind. fruits 20, Sulphur 10, parts. Mix and make a paste with water and apply.
2. (Ind.) R Curcuma Arom., Pterocarpus Sant., Symplocos Rac., Aplotax. Aur., Rubia Cordif., â â. equal parts. Mix and make a paste with water and apply.
3. Bhawachee 103, Gurjun Balsam, Ol. Pongamia Glabra.

LEUCORRHŒA.

1. (Sp.) Infantile Leucorrhœa or Vaginitis.—R Lotio Hydrarg. Nigr. oz. 1, Aquæ ozs. 20. First wash out the

vagina by warm water injection and then inject the above twice daily. This is very effective in infantile leucorrhœa or vaginitis. It is unfailing and prevents our resorting to other astringents or nitrate of silver, which are harmful. Internally give vegetable tonics with hypophosphites.

2. R Pot. Chloratis grms. 12, Vin. Opii grms. 10, Tar water grms. 300. M. 2 or 3 tablespoonfuls in a quart of warm water to be used as an injection. **In fœtid leucorrhœa.**

3. R White Vinegar or (Wine) grms. 300, Tr. Encalypti grms. 45, Acid Salicyl. grm. 1, Sodæ Salicyl. grms. 20. M. 1 to 5 teaspoonfuls in a quart of warm water as an injection 2 or 3 times a day. **In fœtid leucorrhœa.**

4. **In obstinate pruritus associated with leucorrhœa,** a tablespoonful of a mixture of equal parts of Tr. Iodine and Pot. Iodide, in a quart of warm tar water used daily, night and morning, removes the pruritus and ameliorates the leucorrhœa.

5. R Alumen grms. 10, Pot. Iodide grms. 4, Tr. Iodine grms. 2, Inf. Chamomile grms 500. M. ft. injectio. For obstinate leucorrhœa.

6. R Acid Salicyl. 4, Acid Tannic 6, Bismuth Subnitr. 90, parts. M. To be used dry in vaginal leucorrhœa with great benefit.

7. R Ext. Hemlock Fl. (Geddes) oz. 1, Aquæ ad quart 1. M. ft. injectio.

8. R Pil. Phosph. Mol. grs. $1\frac{1}{4}$, Ext. Hamamel. gr. 1; Ext. Valer. grs. 2, Zinci Sulph. gr. 1. M. ft. pil. One t. i. d. after meals.

8. F. 2 **Chorea**, F. 2, **Dysmenorrhœa**, F. 1. **Spermatorrhœa.**

9. **Other external and internal remedies :—**Acid Gallic, A. Tannic, Agrimony, Asclep, Curr. 74, Bals. Peru, *Baycurn* 80, Beech-drop, *B. Naphthol* 100, Bistort, Button-snake root, Canada Thistle, Cantharides, Catechu, Cerasein (periodical leucorrhœa), Coccus Ind. 200, Callinsonia 211, Cornus Fl. 225, Ergot, *Eucalyptine* 263, Engenia Chekan, Ferri Arsen., *Ferri Alum*, *Ferri Perchl.* 286, Ferri Pernitr., Gelsemium 300, Geranium 303, *Granati Cort.* 584, *Grindel Rob.* 311, Gum Rubr. 268, *Hama-*

mel. 320, *Hazeline*, *Helonias*, *Hydrastis* 349, *Jambul* 424, *Judas-tree*, *Kava-kava* 437, *Krameria*, *Mangifera* 478, *Mangostine* 295, *Manzanita*, *Matico*, *Musk-root*, *Plantago* *Lan.* 573, *Pot. Chlor.* 575, *Pot. Iodide*, *Pot. Permang.* 552, *Pulsatilla* 582, *Quercus Cort.*, *Resorcine* 612, *Rhus Aro.* 616, *Rhus Glabra*, *Rumex Crisp.* 620, *Salix Nigra*, *Stillingia* 685, *Viburn.* *Prun.* 727, *Virginia Stonecrop*, *Water Avens*, *White Pond Lily.*, *Yerba Rheuma* 739, *Yerba Santa* 745, *Zinci Sulphocarb.* 747, *Zinc Sozoiodol* 611, *Zinci Sulph.*

LICHEN.

1. **Lassar's treatment** consists in lightly touching the heads of the nodules for a fraction of a second with the finely bent end of the *galvano-caustic wire*, or with the point of a *Pacuelin thermo-cautery*. Slight scurf is produced, and the use of a toilet powder on the affected parts is sufficient after-treatment. The result is uniformly satisfactory. Intollerable itching is in this way quickly removed, and the disease permanently cured.

2. *Acid Chrysophanic* 11, *Ferri Arsen.*, *Glycerine*, *Ichthyol* 367, *Iodine* 384, *Jaborandi* 403, *Ol. Plumbi* 518, *Papain* 542.

LITHÆMIA (URIC ACID DIATHESIS).

1. *R. Calc. Carb. Precip.* grs. $3\frac{1}{2}$, *Magn. Carb.* grs. $2\frac{1}{2}$, *Sodii Chloridi* gr. 1. *M.* To be made into lozenge or into a mixture with the addition of water. Several such doses to be given per day. An antacid for preventing uric acid gravel (*Sir W. Roberts.*)

2. *Lithæmia*, accompanied by cough, highly acid urine, with large quantities of uric acid and a diminution of the normal urea, is quickly benefited by the exhibition of the **vapor of peroxide of hydrogen**. (*John Aulde, M. D.*)

3. *Carlsbad salts* 146, *Hydrangea* 330, *Kava* 437, *Pichi* 568, *Pot. Permang.* 552, *Sodii Hippuras* 663, *Vichy Water*. For other remedies *vide Lithonlytics, &c.*

4. **Test for Uric Acid.**—*M. Didelot* gives the following reaction for uric acid, which he asserts to be of an extreme sensi-

bility. Upon a small piece of guano, or of the excrements of birds or snakes, or of any substance which may contain it, a few drops of *nitric acid* are dropped, and a small quantity of the mixture is rubbed with a glass rod or with the finger upon a knife-blade, a spatula, or *any bright piece of iron*, which becomes immediately coated with a layer of *Prussian blue*.

Dietary.—*Vide* Biliary Calculi and Gout.

LOCOMOTOR ATAXIA (TABES DORSALIS.)

1. M. Mosse of Montpellier reported the case of an ataxic arrived at the cachectic period of the disease, in whom **compression of the neck brought great relief** to many of the most distressing symptoms such as the gastric crisis, the sensation of cervical and thoracic constriction, &c., the duration of the relief varying from time to time, but always capable of being renewed by this simple means. He suggests, as to the precise way in which the procedure acts so beneficially, that it may be analogous to the similar relief afforded by the compression of special zones in hysteria, or the painful points in certain forms of neuralgia. As to the nerves, by way of which the relief is conveyed, the pneumogastric would appear to be the most likely ; but in consequence of the complex anatomical condition of the region of the neck, it is not easy to say which of the nerve trunks here situated determines the desired inhibitory action. Therefore, without prejudice to the physiological mechanism concerned, M. Mossé would restrict himself to recording the fact that lateral pressure of the cervical region finds an undoubted result in modifying the distressing symptoms above named.

2. Antifebrin 51, Antipyrin 62, Atropine (hypod.), Bellad., Calabar bean, Cōnium, Electricity, *Phosphorus*, Pot. Iodide, Salol 631, Silver Nitrate, *Spermine* 677, Strychnine, Systemic tonics—Cod Liver Oil, Iron, &c., Zinc Phosphide.

LUMBAGO.

1. F. 1. **Sciatica.**

2. Acid Osmic 14, Aconite, (I. & E.) *Actæa Rac.*, *Amyl Nitrite* 45, *Anodyne Amyl Colloid*, Antifebrin, *Antipyrin* 58, Bellad.

plaster, Caffeine, Capsicum 142, Chloroform liniment, Electricity, Emp. Picis, *Gelsemium* 297, *Galvanism*, *Jamaica Dogwood* 416, Lin. Bellad., *Menthol* 497, Methylene Blue 762, *Massage*, Morphine and Atropine (hypodermically), Ol. Pini Pumil. 526, *Phenacetin* 557, *Pichi* 568, Pinol Ext. 527, *Pot. Iodide*, *Pot. Nitrate* (10 gr. doses if the urine is dark coloured) *Quin. Salicyl.* (grs. 3), *Sodii Salicyl.*, Thiol 707, *Tr. Rhus Tox.* (ms. 2.), *Veratrum Viride*.

CAUSE AND CURE OF A FORM OF BACKACHE.

Some patients complain of pain or aching, dull and heavy in character and extending right across the back. Its position is behind the trunk, straight across the back, in a transverse line, almost half way between the inferior angles of scapulæ and the renal region. This pain Sir James Sawyer attributes to a loaded colon, due to alvine sluggishness of sedentary persons. In such a condition a pill composed of Aloes Soc. 1, 2 or 3 grs., Ferri Sulph. $\frac{1}{4}$ gr. and Ext. Hyosc. 1 gr. should be taken every night. We must aim at producing full alvine evacuations after breakfast. When a saline cathartic is indicated Sir James Sawyer employs Rochelle Salt in tea, coffee or cocoa; one or two teaspoonfuls should be taken at breakfast in a large cupful of these beverages.

LUPUS.

1. (Sp.) R Hydrarg. Oleat. oz. 1, Acid Salicyl. grs. 10 to 15, Ichthyol grs. 15, Ol. Lavand. q. s. It is best applied as an inunction, say for 20 minutes in the evening and 10 in the morning. For **lupus vulgaris**. It reduces the field in which operations are needed, is painless and usually involves no suspension of work. The proportion of the ingredients must vary with the sensitiveness of individual skins. The ointment may be fixed to the skin by dusting with starch or adding that powder and Zinc oxide to a second portion of the ointment. In the case of hands, gloves should be worn (Brooke).

2. R Arsenici Oleat. grs. 5 to 10, Zinci Chloridi grs. 5, Pulv. Marantæ grs. 30, Ext. Bellad. grs. 5, Ext. Opii grs. 10, Lanolini drs. 4. M. For lupus and old ulcers.

3. R Calomelanos grs. 200, Arsenici Oxid. Albi P_v. gr. 1. To be thinly sprinkled over a small portion of diseased surface by means of a puff (Dupuytren).

4. **Alvelos Milk** painted on the parts or applied as a plaster, is used with benefit in lupus, cancer and cancerous ulcers.

5. R Hydrarg. Perchl. grs. 2, Vinolia oz. 1. M. For lupus and alopecia.

6. Acid Chrysophan., A. Gynocardic, A. Lactic 14, A. Pyrogallic, A. Salicyl. 19, Alum Soap 890, Aristol 754, Chaulmoogra Oil 159, Ferri Arsen. (I.), Ichthyol, Iodol 396, Hydronaphthol 357, Hydroxylamin, Iodoform 390, Koch's Remedy, Ol. Arsenici 516, Pot. Chlorate 575, Phosphorus (I.), Resorcine 610, Sod. Ethylate 662.

MAMMARY DISEASES.

MASTITIS AND MASTODYNIA.

1. Meisel reports twelve cases of mastitis treated by the **plaster-of-Paris bandage**. After cleansing the breast thoroughly it is surrounded by gauze, an opening left over the nipple; the breast is enveloped by a gauze bandage dipped in plaster-of-Paris; a bandage upon the outside protects the dressing from injury. This treatment was employed where it was desirable to stop lactation, and in twenty-four hours after the application of the dressing hardness and swelling in the breast disappeared, and the milk ceased. The gauze placed next to the breast was antiseptic.

2. Antifebrin 51, Belladonna (E. & I.), Conium (E.), Ichthyol 373-4, Iodine (to remove consequent induration), Jaborandi 404 (para 10), Phytolacca 565.

PREVENTION OF MAMMARY ABSCESS.

Instances are met with where the function of lactation is either not considered advisable, as in cases of syphilitic taint, marked tendency to phthisis, epilepsy, &c. or where from the child being still born or the nipples depressed, subject to cracks, fissures or erosions, the function of lactation is unnecessary or unable to be persisted in. Apart from these conditions there is unquestionably

a growing tendency for mothers to avoid the responsibility of sucking their offspring. Milk is secreted and if it be not drawn off at appropriate intervals the breasts become engorged and frequently inflamed, mammary abscess results. From whatever cause it may be, we are often obliged to take steps to prevent such a contingency.

For many years, the old fashioned system of rubbing or making frictions on breasts with belladonna and oil or glycerine, belladonna plasters, &c. were in use, but it being believed that friction of any kind rather tended to produce than prevent mammary abscess, it was long since discarded.

Best way is to rely upon a few turns of rib bandage or the application of a thin towel or diaper across the chest, the breast being well brought towards the sternum. Since adopting this method it is never known to have failed. The only precaution necessary is to apply the pressure on the second day following parturition, before the breasts begin to fill and to see that the whole of the glands are included. It is well to elevate the shoulders somewhat more than usual and not to allow bed clothes to cover the upper part of the chest, the sheet above sufficing to prevent any risk of chill. Restriction as to the amount of fluid for the first few days and attention to bowels are all that is requisite to induce success. Some little inconvenienc—a feeling of tightness or burning pain—is often experienced, but if the pressure be maintained no harm results and within few days turgescence subsides, &c. In order to keep the bandage or towel from slipping down, a shoulder strap from back to front or merely pinning the bandage to the night dress, suffices. Where secretion of milk seems to be more than abundant a mixture of bromide and iodide of potassium may be prescribed with benefit (*vide Galactafuges*). In only a very few instances has it been found requisite to draw off a small quantity of milk by means of a breast pump or exhausted soda water bottle and this only once or twice.

ATROPHY OF MAMMÆ.

Saw Palmetto, 651.

SUBMAMMARY PAIN.

There is a pain usually spoken of as **Submammary pain**, but constantly referred by patients themselves to the heart, by young women who are also the subjects of anæmia or who are suffering from some derangement of the menstrual functions and you will also frequently find submammary pain associated with tenderness over the ovaries and especially over the left ovary. If you examine these cases attentively you will find that the pain complained of is often limited to a spot over the cardiac apex, just over the seat of the apex beat and it is much aggravated by pressure of the tips of the fingers on this spot. This pain when associated with well marked anæmia will disappear as the anæmia (q. v.) disappears, but when associated with ovarian irritation without anæmia as you will sometimes find it in robust young single women with florid complexion it is often a most troublesome symptom to relieve. *Repeated small flying blisters over the left ovary and over cardiac apex are most effective modes of treatment.*

SORE, FISSURED AND CRACKED NIPPLES.

1. R Tannin dr. 1, Bism. Subnitr. drs. 2, Vaseline oz. 1. M. Applied on sore nipples when the child is not nursing.
2. R Acid Salicyl. 1, A. Tannic $\frac{1}{4}$, Borax 2, Ceræ Alb. 4, Adeps Benz. 12, parts, Otto de Rose to perfume. M.
3. R Borax dr. 1, Alum drs. 2, Bals. Peru drs. $1\frac{1}{2}$, Ol. Amygd. Dulc. oz. 1, Ovi Vitelli 1. M. ft. Ung.
4. R Pulv. Acaciæ drs. 2, Bals. Peru dr. 1, Ol. Amygd. drs. $1\frac{1}{2}$, Aquæ Rosæ oz. 1. M. For sore nipples and on itching parts.
5. R Glycerine 8, Ceræ Alb. 1, Ol. Amygd. 16, parts. For cracked nipples, excoriations, chilblains, &c.
6. R Glycerine 1, Sopo Mollis 1, Aquæ Laurocerasi 1, part. Same as above.
7. Iodoform, or Iodol, or Salol, dr. 1 to oz. 1 of Vaselin is effective for fissured and sore nipples.

8. Fissured and tender nipples are protected by painting with solution of gutta percha in chloroform.

9. Argenti Nitr., F. 6, pg. 839, Hamamelis 321, Hazeline 322, Liq. Sodæ Chloratæ, Lanolin, Sanitas Vaseline 645.

MARASMUS AND TABES MEENTERICA.

Ingluvin 379-80, Maltine, Ol. Eulachon, Ol. Morrhuæ, Pancreatine 535, Pot. Chlorate 574, Pot. Bichrom. 573, Punica Gran. 584, Saw Palmetto, Stillingia 686.

MASTURBATION.

1. In a case of pronounced nymphomania and masturbation most satisfactory results have followed the application of a solution of cocaine to the clitoris and vagina.

2. Salix Nigra 629. 3. Saw Palmetto 651.

MEASLES.

Acid Carbol., Aconite, Actæa Rac 25, Ammon. Salicyl., Antifebrin, Antimony, Antipyrin, Ipecac., Jaborandi 402, Kairin 431, Menthol 489, Phenacetin 555, Pot. Chlor. 574, Sanguinaria 637, Sanitas Oil 643 (6.), Sod. Salicyl., Sod. Sulphocarb., Thallin 706, Yerba Santa 742 (c.).

MENIER'S DISEASE.

Palletierine Sulphate 585.

MENINGITIS (CEREBRO-SPINAL).

1. Aconite, Antimony 56, Atropine, Bellad., Calabar bean, California Laurel, Calomel, Cold, Depletion, Digitalis, Ergot 242, Gelsemium 297, Henbane, Opium, Pot. Bromide, Pot. Iodide, (*Vide* pg. 1036), Pulsatilla 587, Purgatives, Veratrum Viride 718.

2. F. 4. pg. 877.

MENINGITIS (TUBERCULAR.)

1. Iodoform inunction (Iodoform part 1 and Vaseline parts 4 to 8) over the head has been found very successful in tuber-

cular meningitis of infants. There were three successful cases and it had occurred in infants before the bases of the head had coalesced. In all the successful cases there was an appearance of a red spot on the right temple ; other symptoms diagnostic of the disease were also observed. (Recently inunction of Iodoform in Lanoline 1 in 5, twice daily, to the shaven scalp, is recommended.)

2. Calomel, Ergot, Ice to the head, Pot. Iodide, Sulphonal 696.

MENORRHAGIA AND METRORRHAGIA.

1. (Sp.) The following treatment has been recommended in menorrhagia which is so common among women between the ages of 30 and 40 :—

(a.) R Pot. Iodidi gr. 1, Tr. Iodini oz. 1, Acid Carbolic dr. 1, Glyserine dr. 1. M.

The uterus to be swabbed out with this solution applied on a piece of cotton wool wrapped round the uterine probe. The application should *never be used at the regular period of menstruation* ; but after the lapse of 4 or 5 days it may be thoroughly applied to the whole interior of the organ. The *hot douche of salt and water* will also be found of great service in arresting this hemorrhagic tendency. In addition to this treatment a drachm or two of *iron alum* to the quart of water may be applied night and morning. It should be allowed to pass from the tube very slowly and the patient told to retain as much as possible in the vagina by elevating the hips. Internally the following mixture may be given where there is constipation with symptoms of torpid liver and kidneys :—

(b.) R Magn. Sulph. oz. 2, Acid Sulph. Dil. drs. 4, Ferri Sulph, drs. 3, Quin. Sulph. drs. $1\frac{1}{2}$, Strychn. Sulph. gr. 1, Malt ozs. 6, Aquæ Menthæ Virid ozs. 2. M. 2 to 4 teaspoonfuls after each meal.

2. (Sp.) Professor Pétresco, of Bucharest, accords to **Bryonia alba** a first place amongst all known controllers of hæmorrhage, causing, as it does, marked contraction of the capillaries. He prepares it by boiling five or six drachms of the dried root in ten

ounces of water until the amount is reduced to five ounces. After filtration, and the addition of sugar, the decoction is taken in three or four doses, at intervals of half an hour. Pétresco observed the favourable influence of the drug in cases of hæmoptysis, metrorrhagia, hæmatemesis, and post-partum hæmorrhage. (*Vide* pg. 992).

3. (Sp.) Dr. Macnaughton Jones has frequently used with benefit the following combinations in menorrhagia and metrorrhagia, as also in some cases of hæmoptysis and epistaxis:—

(a.) R Hydrastia Muriate gr. $\frac{1}{4}$, Ergotine gr. $\frac{1}{2}$, Cannabin Tannate gr. $\frac{1}{2}$. M. ft. pil. One or two t. i. d.

(b.) In those cases of menorrhagia, and metrorrhagia associated with **cardiac, functional, or organic lesions** occasionally attended by **dysmenorrhœa**, the administration of *Hydrastis* and *strophanthus* will be found of great service, and there is no objection to the triple union formed by the addition of *ergot*. *Strophanthus* in such cases may have this advantage over *digitalis*, that it is better tolerated when administered for any length of time. (*Vide* pg. 349).

4. (Sp.) Cannabis Ind. has a much specific use in menorrhagia and especially in that occurring at the **climacteric period**. The *modus operandi* cannot be explained, unless it be that it diverts a larger proportion of blood to the brain and lessens the muscular force of the heart:—

R Tr. Cannabis Ind. mins. 15, P. Tragacanth. Co. dr. $\frac{1}{2}$, Sp. Chloroformi dr. $\frac{1}{2}$, Aquæ ad oz. 1. M. Give every 3 hours.

5. (Sp.) A plug of cotton dipped into a **concentrated solution of Salicylic Acid** and introduced into the vagina as far as the os, at once checks metrorrhagia. It is prepared as follows:—

R Acid Salicylic. pur drs. 2, Sodii Biborate dr. 1, Glycerine q. s. Mix the acid and borax with fl. drs. 4 of glycerine, heat gently until dissolved, and then add enough glycerine to make the whole measure one fluid ounce. The solution contains 25 per cent of salicylic acid, and can be diluted with either glycerine, alcohol, or water, to any degree required. (*Vide* pg. 19).

6. Pot. Bromide in doses of 20 grs. is useful in menorrhagia due to ovarian congestion. *Vide* pg. 112.

7. F. 1, Hæmatemesis. F. 1, Hæmaturia. F. 8, Hæmoptysis. F. 2, Dysmenorrhœa.

8. Acid Hydrobrom. 12, Actæa Rac., Aloes with Iron, *Antipyrin* 60, *Berberis Vul.*, *Capsicum* 140, *Caulophyllin* 154, *Chloroform* 168, *Digitaline* 235, *Ergot* 243, *Ferri Alum*, *Ferri Pernitr.*, *Fleabane oil*, *Gossypium Herb.* 308, *Hamamelis* 319, *Hazeline* 322, *Hydrastis* 343, *Hydrastinine* 351, *Ipecac.*, *Jambul* 424, *Kino*, *Krameria*, *Lamium Alb.* 449, *Liq. Opii Sed.*, *Mangifera Ind.* 478, *Mistletoe* 498, *Pomegrante* 584, *Plantago Lanc.* 573, *Quinine*, *Rhus Aro.* 616 and 618, *Saraca Ind.* 649, *Sodii Chloride* 661, *Uva Ursi*, *Ustilago Maidis* 717, *Viburn. Prun.* 727, *Vinca Major*.

THE INFLUENCE OF MENSTRUATION UPON LACTATION.

Schlichter concludes from an extensive study on this subject that menstruation occurring later than six weeks after the birth of a child has no injurious effect upon the mother or child so far as nursing is concerned. Should menstruation or hemorrhage occur earlier than six weeks it may retard the development of the child. Dyspepsia, colic, and entero-colitis occurring in children nursing during menstruation are to be considered as coincident with, but not caused by menstruation. They should be treated as if they occurred at any other time, and the nurse should not be changed on that account.

VICARIOUS OR ECTOPIC MENSTRUATION OR MENSES DEVIL.

First so far as is possible you reduce the arterial tension. This may be done by *Aconite*, small doses of *Antimony*, the *Bromides*, *Nitroglycerine tablets* or *Nitrite of Amyl*. Secondly to endeavour to check the tendency of blood to undue hæmatolysis by means of *Tr. Ferri Perchl.*, by *Pot. Chlorate*, by *Quinine* and, above all, by small doses of *Turpentine*. The effect of this drug upon hæmatolytic condition is most marked. The most striking effects from its use were

observed in a case of *vicarious purpura* at the change of life where a woman who had been regular monthly until near the age of 50 had petechiæ repeatedly, and even vibices all over the body, exactly at her monthly periods, which were absent at the usual channel. There was some undue oozing of the blood from the gums also. All other drugs having failed to make any impressions upon these symptoms, *Turpentine*, was used with the best results. But this does not exhaust all our therapeutic resources. To those who are able to resort to them, *Iodine and Iron Waters* are beneficial. The most powerful Iodine spring known is that of the Woodhall Spa at Horncastle in Lincolnshire. Iron Waters at Tunbridge wells. Baths or sponging daily are very useful (Dr. Wiltshire.)

2. Hydrastis and sclerotic acid will be found most useful in vicarious hemorrhages of women. (Dr. Macnaughton Jones).

METRITIS, ENDOMETRITIS AND PERIMETRITIS.

1. The fl. ext. of hydrastis can. has been, for several years, a dressing in frequent use with Dr. Macnaughton Jones, in common with other applications, or added to these, in cases of *chronic endometritis, in cervical (bleeding) erosions, and after scarification of the cervix for congestive states of the uterine cervix*; he usually combines it with either carbolic acid or iodine, or both, adding equal parts of glycerine. For further *vide Uterine Diseases*.

F. 2. Dysmenorrhœa.

2. Atropine, *Bellad.*, Bromides, Camph. Monobrom., Calomel, *Cannabis* 137, *Conium*, Eucalyptine 264 (*b.*), *Gelsemium* 300, *Hydrastis* 343, *Hydrastine* 349, *Hydrastinine* 351, *Ichthyol* 369-70, *Iodoform* 370, *Liq. Opii Sed.*, *Piscidia Ery.*, *Resorcine* 612, *Salix Nigra* 627, *Viburn. Prun.*

MOLES.

UTERINE MOLES.

1. Experience had taught Dr. J. F. Wilson to believe that if these cases did not receive treatment at a proper time there were two grave dangers to be apprehended—viz., hæmorrhage, which, if

not an immediate cause of death, was capable of leading indirectly to that end, and septic poisoning. In the treatment, *if the cervix was sufficiently dilated and hæmorrhage troublesome, the mass should be promptly removed*. If this could not be done, a *hot antiseptic vaginal douche* should be given, followed by a careful and efficient *tampon*, with the internal administration of *ergot and anodynes* if required, directing quiet, rest, and a simple diet. In from 12 to 16 hours the tampon should be removed and the foreign body extracted as completely as practicable; this would require a good, stout forceps. He had used the ordinary dressing forceps and placental forceps for the purpose. An excellent instrument in some cases was Emmet's curette forceps. The surface should be well curetted with a *wire curette*, the uterus thoroughly washed out with a hot solution of *bichloride of mercury*, and Squibb's crude *carbolic acid* or Churchill's *tincture of iodine* well applied to the surface. If much bleeding ensued—and this was not usual—the application of *persulphate or perchloride of iron* gave good results. The patient was put to bed and kept there as long as the indications in each special case might require; she was put upon a tonic treatment and the use of hot vaginal antiseptic washes. In from three to five days the uterus might need curetting again and another intra-uterine douche; then the application of iodine about twice a week, alternated occasionally perhaps with carbolic acid as long as might seem necessary, and the cure, if possible, completed of any uterine disease that might exist. The patient's general health was carefully looked after and her mind tranquillized.

HAIRY MOLES.

Liquor Sodii Ethylatis 662.

MOUTH, DISEASES OF,

Inflammation, soreness, ulcerations, &c.

1. R Zinc Sulph., Sodii Sulph. â â. grs. 20, Tr. Opii oz. $\frac{1}{2}$, Aquæ ozs. $1\frac{1}{2}$. M. ft. lotio. Gargle and wash mouth 4 or 5 times a day. If it causes much pain, dilute with water.
2. R Sage ozs. 2, Pd. Alum oz. 1, Pd. Borax oz. 1, Strained honey ozs. 4. Pour over the sage a pint of boiling water, make a

strong sage tea ; let it stand until cold, strain and add the borax, alum and honey. Gargle and wash mouth four or five times a day. In the acute or inflammatory stage of ulcerated sore throat or mouth when Lotion, No. 1 is too strong.

3. Acid Boracic 7, A. Chromic 10, Eucalyptine 265, Hamamelis 321, Hazeline 322, Iodol 395, Lycopersicon 468, Mangifera Ind. 478, Papaya 542, Pot. Chlorate 574, Salol 633, Sanitas Fluid 647, Siegesbeckia 657.

MUMPS (PAROTITIS).

Diaphoretics ; Ichthyol ; *Jaborandi* 405 ; *Pilocarpine* ; Saline purgatives.

MYALGIA.

Aconitin 23, Actæa Rac. 24, Ammon. Chloride (I.), Antipyrin. 59, Arnica (I. and E.), Bellad. with Opium (E.), Chloroform liniment, Coca (I.), Exalgine 284, Jamaica Dogwood (I.), Phenacetin 557, Xanthoxylum (I.).

MYOMATA.

1. I have many times tried both the tincture, extract, and alkaloid of *Hydrastis Canadensis* in various forms of myomata. The results have been generally disappointing. There has been some modification and partial control of the bleeding occasionally, but no permanent or marked relief. Still, its addition to prescriptions containing ergot, when the latter is employed for these growths, would seem justifiable, and may add to their efficacy. (Dr. Macnaughton Jones).

Vide also pg. 349 and 351.

NÆVI.

1. (Sp.) **Painless destruction of Nævi.**—A. B., aged 2, suffering from a nævus the size of a shilling, behind the right ear, was on May 12th, 1887, treated by me in the following manner for its removal. Having first painted the healthy skin around the circumference of the nævus, for about half an inch, with a coating of collodion flexile, I applied a thick layer of a 4 per cent solution of corrosive

sublimate in collodion over the nævus. On the 25th, when I removed the collodion, the nævus had entirely disappeared, and nothing remained but a small scab. Dr. Böing was the first to suggest this method of treatment, and my object in publishing this case is to draw attention to so simple, satisfactory, and painless a method of treatment. (R. H. G. Hunter, M.R.C.S., etc.)

2. In nævus and fungous hæmatodes its action was all that could be desired. In these cases it was usual to surround the part with a ring of gutta-percha and to fill this with the **crystallized chromic acid**, &c. (Dr. Lowe).

3. **Vienna Paste.**—R Pot. Caustic drs. 5, Slaked Lime drs. 6, Rect. Sp. q. s. to make a mass. The paste is placed on the part to be cauterized, and is allowed to remain from 10 to 15 minutes, while the surrounding skin is protected by adhesive plaster.

4. F. 1, **Caustics**, pg. 789.

5. Alum, Liq. Ferri Perchl., Liq. Sodii Ethylatis 662.

NAILS, DISEASES OF, INGROWING-TOE-NAIL (ONYXIS.)

1. Mr. E. J. Domville advocates bathing the surface of the exuberant granulations with a solution of hydrochlorate of cocaine (grs. 10 to oz. 1). After this the operation of dressing under the nail with wool or lint is quite painless. If the application of the cocaine is repeated every other day for two or three weeks, the effect on the granulations is most marked: the antiseptic properties of the cocaine seem to come into action, the surface of the sore becomes hardened, and the exuberant tissue may be painlessly peeled off; and all this without confining the patient to bed, and even allowing of a certain amount of walking exercise.

2. Powdered **rhubarb** applied thickly twice a day is an effectual remedy for the superficial irritable ulcerations which occur about ingrowing toenails, stumps, over varicose veins, and the like.

3. Cocaine, 195. (b.) ; Iodoform.

ONYCHIA.

The plan recommended by Dr. Charles W. Dulles, of Philadelphia, consists in washing the usually stinking finger or toe end with a weak solution of **pot. permanganate**, trimming the nail back to where it is attached to the matrix, dusting on a fine powder of **iodoform** and covering the whole in with turns of a narrow strip of adhesive plaster ($\frac{1}{4}$ inch wide of plaster is sufficient). The plaster he prefers is the rubber adhesive plaster and is much easier to apply because it requires neither heat nor moisture to fix it. By these means he gets exceedingly good results. Give ferruginous tonics and patient's bowels should be once well cleared out.

PSORIASIS OF THE NAILS.

1. The application of a mixture of equal parts of the Calomel and Creasote ointments is sometimes useful.

2. Arsenic (I.), Lin. Iodine (E.), Oleat. Stanni 518.

Vide Whitlow.

NASAL DISEASES.

RHINITIS.

1. Dr. Hughes has found **Aristol** of much service in all those forms of rhinitis associated with a dryness of the mucous surface, or in which there is a tendency for the secretion to undergo decomposition. He reports twenty-one cases in which he has tried the remedy, and in all the result was most satisfactory ; in two cases of specific ozæna the disappearance of the fetor and the healing was very rapid.

2. F. 7, 13, **Catarrh (Nasal)** pg. 843 and 844, F. 27, pg. 461.

3. Iodoform 391, Menthol 488, Pilocarpine 409, Zinc Sozoiodol 671. *Vide Pharyngitis.*

NASO-PHARYNGEAL CATARRH.

Hamamelis 321 ; Menthol 488. *Vide Pharyngitis.*

NASO-PHARYNGEAL ATROPHIED CONDITIONS.

Iodol 395 ; Menthol 488.

ECCHONDROSES OF THE SEPTUM NARIUM.

The following is the description of their removal and treatment :—

“ Before I proceed with the operation, however, in a given case, I treat the usual mucous membrane with a view to reduce the existing hyperæmia, for it is my experience that, if any surgical interference is undertaken at once, the shock following the operation is much more severe, and the wound does not heal as kindly nor as rapidly as when all acute or subacute inflammation has first been removed. For this purpose I use a spray of an alkaline solution, and make local applications with glycerole of iodine by means of a cotton carrier. Formerly I used the ordinary Dobell’s solution for the spray, and also as a wash to be snuffed up the nose by the patient, morning and night, but within the last two years I employed instead a solution composed of the following ingredients :

R Sodii Bicarb. et Sodii Bibor. â â. oz. 1, Sodii Benzoat. et Sodii Salicylat. â â. grs. 20, Eucalyptol et Thymol â â. grs. 10, Menthol grs. 5, Ol. Gaultheriæ gtt. 6, Glycerinæ ozs. $8\frac{1}{2}$, Alcoholis ozs. 2, Aquæ q. s. ad 16 pints.

This formula gives a solution which is sufficiently alkaline to dissolve the thickened secretion adhering to the nasal mucous membrane, and as it is of proper density, it is bland and unirritating, leaving a pleasant feeling in the nose. At the same time, it is antiseptic and acts as a deodorizer, being in this respect far superior to Dobell’s solution or any other non-irritating deodorizer and antiseptic. (Carl Seiler, M.D.).

NASAL FRACTURE.

Collodium B. P. 212.

OPERATIONS WITHIN THE NASAL CAVITIES.

Cocaine 189.

NASAL POLYPUS.

1. It is claimed that injecting 10 to 15 drops of 6 per cent. solution of Cocaine into a polypus will cause its death by contraction of the blood vessels that supply it. *Vide* Cocaine 189.

2. Glyc. Acidi Tannici ; Pot. Bichromate 573.

NASAL REDNESS.

In twenty per cent. of the cases, says a German authority, redness of the nose is really caused by rosacea ; in most cases it is caused by seborrhœa in the hairy parts of the head, and this seborrhœa has to be attacked first with the usual remedies. In cases where rosacea is the cause, Unna gives $\frac{1}{2}$ grain of ichthyol internally, and at the same time applies it externally in aqueous solution (at night), or he prescribes the following sulphur-zinc paste to be applied nightly :—

Ung. zinci 20·0, Amyli oryzæ 5·0, Sulphuris 2·0.

Later on, Unna gets the enlarged venous trunks punctured with Hebra's instrument two or three times per week, the little wounds to be immediately covered with humid wadding. For very mild cases and for supplementary treatment repeated washing with Stiefels' ichthyol soap is recommended, warm water only to be used, as in all cases of rosacea.

NASAL AND NASO-PHARYNGEAL ULCERATIONS, &c.

1. R Iodoform grs. 5, Ol. Eucalypti dr. $\frac{1}{2}$, Vinolia oz. 1. M. For nasal and syphilitic sores.
2. Acid Camphoric 8, Eucalyptine 265, Hamamelis 321, Hazeline 322, Iodoform 391, Iodol 395, Salol 633, Sod. Sozoiodol, Zinc Sozoiodol 671. *Vide Ozæna.*

NERVOUS DEBILITY.

Vide Nervine tonics page 800.

NERVOUS EXHAUSTION.

1. F. 4, Adynamia.
2. Acid Hydrobromic with Quinine, Caffeine Citr., Coca 179, Hypophosphites, Liq. Acid Phosphate, Nux Vom. 514, Saw Palmetto, Spermine, Sp. Ammon. Aro., Strychnine, Valerian, Zinc Oxide.

NERVOUS PROSTRATION.

1. F. 2, 4, Adynamia.

2. Coca 181, Ether 27, Nux Vom. 513, Spermine 676. *Vide Cerebro-Spinal Stimulants*, and also pg. 1033 para 4.

NEURALGIAS.

1. (Sp.) R Croton-Chloral Hydrate grs. 3, Ext. Gelsemii gr. $\frac{1}{4}$. M. ft. pil. 2 to 3 pills every 2 or 3 hours. For **trigeminal neuralgia**.

2. (Sp.) R Quiniæ Hydrobrom. 10 centigrms., Aconitin 0.5 milligrm. M. ft. pil. One every 4 hours. For **obstinate** neuralgias of trigeminal nerves, congestive neuralgias, and painful and inflammatory Rheumatismal affections.

3. (Sp.) **Ammon. Chloride** grs. 30 every half hour until 3 or 4 doses have been taken, and then grs. 10 every 3 or 4 hours, is a specific for **facial neuralgia**.

4. (Sp.) R Hyoscyamine grs. 1/100, Gelsemin gr. $\frac{1}{2}$, Quin. Sulph. grs. $1\frac{1}{2}$. M. ft. pil. 1 to 2 pills for a dose. An antineuralgic for acute painful affections, relieving pain and inducing sleep.

5. (Sp.) R Antipyrin, Quinine, â â. grs. 7. M. ft. pulv. Give t. i. d. For neuralgias. (An obstinate case of **Sciatica** of two months' duration got well after morphia injection, anodyne applications, salicylates, iodides, quinine, gelsemine &c., failed).

6. (Sp.) In a case of **intense intercostal neuralgia**, a pill containing grs. $2\frac{1}{2}$ of **Cinchonidiæ Salicylate** was given every 2 hours, with occasional use of morphia, and perfect relief was obtained in 4 days.

7. **Pil. Antineuralgic** (Dr. Gross').—R Quin. Sulph. grs. 2, Morph. Sulph. gr. 1/20, Ext. Aconiti Fol. gr. $\frac{1}{2}$, Strychniæ gr. 1/30, Ac. Arseniosi gr. 1/20. M. ft. pil. One after meals. Largely and successfully prescribed in all forms of neuralgias. It should not be given incautiously. In those cases where morphine is inadmissible, it may be omitted from the pills.

8. **Pil. Antineuralgic** (Brown-Sequard's).—R Ext. Hyosey., Ext. Conii, â â. gr. $\frac{2}{3}$, Ext. Ignat. Amaræ, Ext. Opii, â â. gr. $\frac{1}{2}$, Ext. Aconit. Fol. gr. $\frac{1}{3}$, Ext. Cannab. gr. $\frac{1}{4}$, Ext. Strammon. gr. 1/5, Ext. Bellad. Fol. gr. $\frac{1}{6}$. M. ft. pil. Dose : 1 pill.

9. R Ac. Arseniosi gr. 1/20, Morphiae gr. 1/10, Quin. Sulph. gr. 1, Ferri Redact. gr. ½. M. ft. pil. One every 3 or 4 hours ; in chronic cases, one t. i. d. with food. For tic, cephalalgia, and dorsal and intercostal neuralgia.

10. **Pil. Anodyne.**—R Camphoræ gr. 1, Ext. Henbane gr. 1, Morph. Acet. gr. 1/20, Ol. Capsici gr. 1/20. M. ft. pil. Dose. 1 to 2 pills.

11. **Pil. Sedativa.**—R Ext. Sumbul, Ext. Valer., Ext. Hyosc., â â. gr. ½, Ext. Cannab. Ind. gr. 1/10. M. ft. pil. Dose : 1 to 2 pills.

12. (Sp.) We are able to reduce pain in any part of the body by means of a topical application of **Cocaine** to an absorbent mucous membrane like the urethra. Over a hundred cases of pain in various parts of body were successfully treated by *injecting a few drops of a 20 per cent. solution of cocaine into urethra*. The pains were relieved in few seconds.

13. A 4 per cent. solution of *Cocaine in Chloroform* is a most effective application for supraorbital neuralgia. *Vide pg. 192 (12.)*

14. Dr. H. Fœhling speaks very positively regarding the merits of the **fl. ext. of perseæ gratissima** in intercostal neuralgia :— Rub the chest and back with a dry towel until a good superficial circulation is obtained, then apply from 1½ to 2 ozs. of the fl. ext., using gentle friction, and cover the part with dry flannel to protect the clothing from stain.

15. (Ind.) **Croton seed** deprived of its pericarp, and rubbed with lime juice, and applied on the painful spot in supraorbital neuralgia of an obstinate character ; small vesicles form on the affected spot, with relief to the pain.

16. (Ind.) Lather of **Sapindus Emarginatus** (The soap nut) rubbed well for some time on the painful part in hemicrania is an useful anodyne, in absence of other remedies, owing to the narcotic principle contained in its rind.

18. F. I. **Hypochondriasis.**

19. Acid Osmic 14, Aconitin 23, Actæa Rac., Æther 27, Allyl Tribrom. 39, Ammon. Picras 16, Amyl Hydride 43, Amyl Nitrite,

Amyl Valer. 751, *Anod. Amyl Colloid.*, *Antifebrin*, *Antipyrin* 58, *Antiseptin*, *Atropine* 83 (*d.*), *Bromides*, *Caffeine Hydrobr.* 128, *California Laurel*, *Camph.* *Chloral* 134, *Cannabis* 138, *Chamomile*, *Chaulmoogra Oil* 159, *Codeine* 204, *Colchicine* 210, *Coninæ Hydrobrom.* 214, *Convallaria* 211, *Elixir Cramp Bk. Co.* 803, *Eserine* 562 (*d.*), *Ethyl Bromide* 255, *Exalgine* 302, *Gelsemium* 297, *Gelsemine* 302, *Horse-chestnut*, *Hyoscyamine* 359, *Ichthyol* 371, *Iodoform Colloidion* 388 and 394, *Jamaica Dogwood* 415-6, *Menthol* 490, *Methacetin*, *Methylene Blue* 761, *Monobromacetanilid* 762, *Nitroglycerine* 510 ; *Oleatum Aconitin*, *Ol. Atropinæ*, *Ol. Cocainæ*, *Ol. Veratrinæ* 518-9, *Ol. Sassafras* 528, *Parthenine* 766, *Phenacetin* 557, *Phosphorus*, *Pink root*, *Pyrodine* 588, *Quin. Salicyl.*, *Resorcine* 607. *Salix Nigra* 628, *Salol* 631, *Saw Palmetto*, *Scopolia* 652, *Scutellaria*, *Sodium Chloride* 661, *Sodium Nitrite*, *Sulphonol* 696, *Terpene hydrate*, *Tonga* 711, *Zinc Phosphide*, *Zinc Valerianate*.

NEURASTHENIA.

Convallaria 222, *Jamaica Dogwood* 415 (2.), *Kola Nut* 441, *Nux Vomica (cardiac)*, *Spermine* 676-7.

Gastric Neurasthenia.—*Vide* pg. 972.

Sexual Neurasthenia.

It is the type of a class of diseases which, almost wholly unknown among the uncivilized races of the world, grow distinct and frequent in a ratio directly proportional to the development of the social and so called civilized states of the people. The treatment may be of 3 kinds:—(a.) General or constitutional; (b.) local; (c.) Operative or Surgical.

Constitutional treatment.—There is no known specific. Quinine and strychnine may act as depressants instead of excitants, while massage, electricity and baths not infrequently irritate and weaken instead of calming and strengthening.

Medical treatment consists either in exhibition of sedatives or tonics. Remedies which have earned the reputation of exercising a direct calming influence on urino-genital system are chiefly

hydrastis, epigea repens, triticeum repens, stigmata maidis, rhus aro., eucalyptus, digitalis, and digitalin, alkalies, cantharides (in minute doses), belladonna, ergot, ergotine, lupuline, camphor, camph. bromide, gelsemium and cimicifuga racemosa. As general sedatives are used physostigma, the bromides of sodium, potassium and ammonium, hydrobromic acid, nitro-glycerine, scutellaria, cypripedine, hyoscyamus, hyoscyamine, conium and convallaria. The tonic remedies are no doubt valuable but it must be distinctly understood that they are no specifics and that no profound or lasting result is to be anticipated from their exclusive use. Iron, quinine, salicylic acid, mineral acids, strychnine, arsenic, coca, quassia, columbo, phosphorus and salts of silver and zinc, will slightly relieve the defective innervation of the genital system but used exclusively, soon may even do mischief, while they are void of anything like a curative power. Combined with sedatives or used alternately with them, good results may soon be expected.

NEURITIS.

Aconitine, Antifebrin 51, Antipyrin, Exalgine, Jamaica Dogwood, Phenacetin 557, Sodii Salicyl. 18.

NIGHT BLINDNESS (HEMARALOPIA.)

1. (Ind.) Dodi-ni-bháji (Guj.) boiled with water and the whole (both the water and the pot herb) partaken early in the morning for a week is said to be an effective and cheap remedy, completely curing the night blindness.

2. Antiscorbutics 785, *Eserine* 562 (F.), Food, Rest, Staychnine and Tonics 800, &c.

NOCTURNAL EMISSIONS, POLLUTION, &C.

1. Ext. Salix Nig. Fl. mins. 30, Ext. Pulsatillæ Fl. mins. 10; Aquæ ad oz. 1. M. Acts as a sedative to the sexual apparatus, checking inordinate discharges from these organs and relieves the head symptoms.

2. R Ergotine gr. $\frac{3}{4}$, Camphoræ grs. 2. M. ft. pil. 1 or 2 at bedtime.

3. F. 4, Chordee. F. 1, Spermatorrhœa. F. 1, Blenorrhagia.

4. Atropine, Bellad., Camph. Brom., Ferri Bromide, Hyoscy. Hydrobrom., *Salix Nigra* 629.

NYMPHOMANIA, PRIAPISM, &C.

1. F. 1, 2, 3, Chordee. F. 1, Masturbation. F. 1, Nocturnal Emission.

2. Lupulin, *Salix Nigra* 627, *Solanum Dulc.*, Strammonium. *Vide Antaphrodisiaes.*

OBESITY, CORPULENCE, PLETHORA, &C.

1. (Sp.) R Decoct. Rumicis Crisp. ozs. 2, Tr. Geoffroyæ Inerm. ozs. 2, Ext. Gavrelles dr. 1, Acid Citric ozs. $1\frac{1}{2}$, Alcohol (56 per cent) ozs. 2. M. Keep for 15 days, percolate and press and make it up to 14 fl. ozs. with water. Dose: 1 tablespoonful in water after each meal. This treatment does not demand semi-starvation, and dietary restrictions. It is an efficacious and cooling antifebrile invigorating tonic, stimulating digestive organs: is neither aperient, weakening, nor sickly; it proves also a sworn enemy to bilious, rheumatic and gouty affections. Its effects are permanent. (Dr. F. C. Russel).

2. F. 6, Hepatic Congestion.

3. *Alkaline mineral waters*, *Alstonia Constr.*, *Andira Iner.* 46, *Berberis Vul.*, Buchu, *Fucus Vesic.* 293, *Gaultheria*, Iodides, Kava-Kava, Lemon grass, *Pot. Permanganate* 552, *Rumex Obtusifolius*, *Saccharin* 623 (*g.*), *Sodii Taurocholas* 667.

Exercise, Dietary, Baths, &c.

4. The following is the treatment of corpulence on *physiological principles*. It is the successful treatment for **obesity in women** where this morbid condition constitutes a most tiresome infirmity, and is often a complication of most of the affections of feminine sex. It is a rational plan free from the objection of Banting's method which is too much like starvation; it has been used, with excellent results, in Germany:—

(a.) **Exercise.**—The cardiac muscle is increased in tone by the augmentation of **physical exercise**, viz., by ascending elevations ; *the exercise will be gradual* and the amount of work proportionate to the resistance of the subject. Transpiration is excited by energetic exercise as well as by baths and covering.

(b.) **Dietary.**—To maintain the normal composition of the blood, it is necessary that the alimentation should be principally albuminous ; it will consist of the lean of beef, roast or boiled, veal, mutton, game and eggs. The amount of bread should not exceed 120 to 180 grammes per day. We should limit each day the quantity of drink—180 grms. of coffee, of tea, or milk ; 360 grms. of wine ; 240 to 480 grms. of water will complete the amount of liquid absorbed in the 24 hours. **Beer is entirely forbidden.** The method of proceeding is as follows :—

Morning.—The cup of tea or coffee, with a little milk, will represent a total of about 180 grms., and about 90 grms. of bread.

Noon.—80 to 100 grms. of soup, 210 to 240 grms. of beef, roast or boiled, veal, game ; we can add green vegetables, such as cabbage and spinach, also salad ; turnips to be almost, and **potatoes altogether, excluded** ; a little fish if desired, but cooked without fat ; 30 grms. of bread or farinaceous pudding *never more than 90 grms.* ; 90 to 180 grms. of fruit in season, for dessert. It is preferable not to drink at the repast, but in hot weather we can allow from 180 to 240 grms. of a light wine.

Afternoon.—The same quantity of tea and coffee as in the morning, with, as a maximum, 180 grms. of water and 30 grms. of bread as an exceptional concession. **Evening (Supper).**—One or two boiled eggs, 30 grms. of bread, perhaps a little slice of cheese, salad, and fruits ; 180 to 240 of wine, with 120 to 150 grms. of water. (Ebstein, Oertel and Schwenninger).

5. Professor Heinrich Kisch gives the following principles as those which govern his practice at Marienbad in the treatment of obesity :—(1) The avoidance of superfluity in the ingestion of food : it is desirable that there should be a decrease of *quantity* to an amount smaller than what the patient was accustomed to, but yet inside the lines within which the body can be sustained. In plethoric individuals, 160 grammes albumen are given, 10 grammes fat, and 8 grammes

carbohydrates ; and in anæmic patients 200 grammes albumen, 12 grammes fat, and 100 grammes carbohydrates. There may be three or four meals daily at fixed hours, but nothing in the intervals. (2) As to the *quality*, the principal point is a full proteid meal, corresponding to the nutrition and condition of life of the individual, and having regard to his age, stature, occupation, and habit, with a moderate amount of carbohydrates, and the fat reduced to a minimum. (3) Ingestion of fluid is not limited : particular drinks are allowed according to need, only during meal-times little or nothing ought to be drunk. To lessen thirst and encourage diuresis, the use of **alkaline carbonate water** is advised. **Anæmic patients should drink less water than plethoric people**, and the same remark applies to those with **cardiac insufficiency**. (4) Bodily movements must be methodically carried out, *e.g.*, exercises, walking, mountain-climbing, with particular care as to the existence of fatty heart. By these means the mental condition may be improved. (5) **Sleep should be curtailed to six or seven hours by night ; and sleeping by day, especially after meals, is forbidden**. (6) Stimulation of tissue-change is secured by a bath of average temperature and **cold rubbing** ; where no vascular disease, **vapour baths** followed by cold friction may be permitted. The bowels should move regularly and in sufficient quantity daily.

The following **diet table** is carried out at Marienbad by Professor Kisch's patients :—In early morning, 5 to 6 o'clock, three to four glasses of Marienbad water ; then a walk through the wood for one or two hours, after which **breakfast**—cup of tea or coffee with one tablespoonful of milk, without sugar, some biscuit, a little cold lean meat (roast beef or veal) or ham deprived of fat ; no butter. Between 10 and 11 A.M., a Marien-spring bath, with the addition of soda, for fifteen minutes, after which cold rain douche ; then an hour's walk and one glass of the Wald-spring with lemon juice. Where the heart is intact and powerful, and no arterio-sclerosis, a vapour bath with a cold rub down following may be allowed twice a week. **Dinner** between 1 and 2—no soup, or one of thin, not fat, beef juice without addition of barley, sago, bread, &c. ; roast lean meat, beef, veal, food without sauce, having vegetables, spinach, cabbage, cauliflower, bread-

crust ; and for dessert a little fresh fruit. Forbidden are goose, duck, pork, carp, salmon, herring, puddings, potatoes, butter, cheese, sweet preserves, cream and ices. As a drink, one wine-glassful of good light wine may be given, the best time being an hour after meals ; no beer, no champagne, no liqueur. Walking exercise for three hours ; then one cup of coffee or tea without sugar or milk ; and about 6 P.M., a glass of Marienbad water. **Supper**, about 7 or 8 o'clock—100 to 200 grammes of roast meat, cold roast, or lean ham, and a little bread-crust. A walk for one hour after. Before bed-time, cold sponging of the body.

ABDOMINAL PLETHORA.

F. 24, 25, 27, Constipation. F. 6. Gout. F. 3, 4, Hepatic Congestion.

OBSTETRICS.

OBSTETRIC ANÆSTHESIA.

The use of anæsthetics in natural labour.—Obstetric anæsthesia is quite different from surgical anæsthesia, the latter being indicated for all obstetrical operations. Obstetric anæsthesia may be **general or local**. For the former are used *ether, chloroform, chloral, and a variety of mixtures, including the bromide of ethyl and the protoxide of nitrogen*. *Hypnotism* is also included in these. For the latter are used *Cocaine, Antipyrine, &c.* All these I describe in full as follows :—

GENERAL ANÆSTHETICS.

Chloroform.—It is now almost universally used in parturition. When it is employed only in the *first stage* of anæsthesia *no particular influence* is exerted upon the *contractions*. If it is pushed to the *second stage* the *contractions are retarded, but soon resume their normal rhythm*. In the *third stage* of chloroform anæsthesia the *contractions are diminished*, or may cease altogether. This is the *stage of danger*, for not only the uterus but the heart and other muscular organs may be *paralyzed*. The *fœtus* experiences very little of the effect of the chloroform. Dr. Charpentier's experience is summed up in the following propositions :—

1. *Chloroform* given in small doses produces a condition of physical and moral calm in the patient. 2. If the inhalations are prolonged for a considerable time, the result will usually be an attenuation of the uterine pain. The perceptions of the patient become less keen and the uterine contractions are slower. 3. If the period of complete anæsthesia is reached with analgesia there is surgical and not obstetrical anæsthesia. 4. In some cases *chloroform excites instead of calming*, and in such cases its use should be *discontinued*. 5. In some cases chloroform has unquestionably diminished the retractability of the uterus, and has thus been the cause of more or less severe hæmorrhage after labor. 6. Chloroform has no action upon the foetus. 7. Chloroform given during the period of expulsion has a less decided effect upon the contractions of the abdominal muscles and the resistance of the perinæum than is generally supposed. The sensation of pain at that period is not entirely abolished, the contractions are frequent, and Charpentier has failed to notice that which has been called by Campbell dissociation of the sensations of touch and pain.

Chloroform is especially indicated—

1. In *primiparæ* who are *nervous* and *excitable*, and in whom the pain may even cause *delirium* ; also in those with whom the *labor* is greatly *prolonged*, thus becoming a source of danger.

2. In all cases in which there is *spasm*, *contraction*, or *rigidity of the neck or body of the uterus*. **Contra-indications** are the absence of severe suffering, the existence of placenta prævia, general prostration, disease of the circulatory or respiratory organs, cerebral disease, alcoholism, etc.

During the period of dilatation chloroform is most required, but only to the extent of obstetric anæsthesia, as a rule. It sometimes gives rise to nausea, vomiting, headache, and various nervous troubles. *Hæmorrhage* is not likely to result unless the *anæsthesia is profound*. Chloroform cannot cause *convulsions* ; on the contrary, it is one of the best means for *relieving* them. It may also be useful in *warding off puerperal mania* from those patients in whom the intense pain of parturition might lead to such a result. Dutertre has found reports of forty cases of sudden death during labor attributable to chloroform, but of that number thirteen should be eliminated as irrelevant. Of the

others, some had cardiac or pulmonary disease, some suffered from alcoholism, and in others the narcosis was too profound. A first condition in the use of chloroform is that it be **chemically pure**; death from respiratory syncope may follow the use of an impure article. Small quantities should be given, the patient being in the horizontal position, and there should be **an interval between successive inhalations**.

2. Generally speaking *I do not give chloroform until the os is fully dilated and the pains are becoming expulsive, unless, in the first stage, to aid in relaxing and dilating a rigid cervix*. It should be given only during the presence of a pain. When the pain comes on a few drops are poured into an Esmarch's inhaler, which is made of wire so bent as to fit over the mouth and nose, without touching either, and covered with a piece of flannel so pervious that a sufficient quantity of air is admitted with each inspiration. **During the pain the chloroform is inhaled freely and is withdrawn as soon as the pain ceases**. Between the pains, the effect of the chloroform passes off in a great measure, and consciousness is rarely if ever abolished. Even should there be present organic disease of the heart, I should not hesitate to use it, for it has been pretty thoroughly demonstrated that there is more danger without chloroform than with it. Given in the way indicated I can see no possible harm to either mother or child, and I say :—*That the obstetrician who does not give his patients the benefit of chloroform in labour not only does himself an injustice but absolutely does his patients a wrong*. (Arch. Dixon, M. D.)

3. Dr. Poruk has not seen serious hemorrhages under its use, but admits that the **post-partum flow of blood is a little more free than usual**. So he believes that it is prudent not to employ chloroform with women who are subject to loss of blood after their confinements. He employs a hypodermic injection of ergotine to ward off or moderate possible hemorrhage.

Ether.—*Vide* pg. 27-8, para 4 and 5.

Ethyl Bromide.—*Vide* pg. 254-5.

Chloral Hydrate.—Chloral can hardly be considered as a general anæsthetic in the same sense as ether and chloroform. An injection of 3 or 4 grammes of chloral in solution given during the

period of dilatation, and repeated perhaps in four or five hours, will often prove of the greatest benefit and comfort to the patient, regulating the pains, moderating the suffering of the patient, and abbreviating the duration of labor. *In the latter part of labor chloral is less useful than chloroform.*

Various mixtures have been suggested, in most of which **ether, chloroform, or chloral** is an element.

Hypnotism.—As to the value of hypnotism in parturition it must have a limited range. Of thirteen cases in which it was tried, it was successful in only four, the patients all being of a hysterical temperament. (Dr. Charpentier).

Prof. S. Ramon Cajal, M.D., reports a case in which he abolished the pain of labour contractions by means of hypnotic suggestions. The patient is said to have had full consciousness of the contractions of the uterus, but without any sensation of pain, although the pulse was quickened and the breathing became laboured, as is usual under the circumstances; so little did she suffer that it was difficult to keep her awake during the last stage. Dr. Cajal points out the peculiarity that the rapidity of the process in this case was not less noteworthy than the absence of pain; and this was the more remarkable inasmuch as her previous confinements had all been very long. He describes the effect of the hypnotism as having been to paralyse the nerves of pain while leaving the perception of tactile impressions and the muscular sense unaffected.

LOCAL ANÆSTHETICS.

Cocaine.—1. Dr. A. L. Wagner regards cocaine of great value in parturition. In each case he employs two suppositories of 2 to 3½ grains each. One is inserted into the vagina at the onset of labour, and in two hours the second is used if needed. *After delivery a copious antiseptic douche is used to clear the vagina of the unabsorbed cocaine.* In cases where the **membranes are prematurely ruptured or where the dilatation of the cervix is prolonged, as well as in normal labours, cocaine not only annuls the pain, but it also permits or causes a more ready dilation by paralyzing the circular fibres of the os. The use of cocaine**

materially shortens the duration of labour, and in Dr. Wagner's experience has been about two hours from the time of sufficient dilation of the os to admit the finger to full dilatation and expulsion of the foetus. After full dilatation of os but few pains are required to expel the foetus. It not only expedites labour, but annuls the pain to such an extent that the patient, if in sharp pain at the time the first suppository is used, soon manifests her freedom from it by remarking that the labour is not progressing as it should, because she feels the pains to be less energetic.

It has been used in all cases since 1885, especially in those cases where one is called early and also in cases where called late, if there were any reasons to believe that labour would be prolonged.

2. Dr. Kiester also reports the successful use of **cocaine as an anæsthetic during labour**. The patient was a primipara and of nervous temperament. After the dilatation of the os and the descent of the head of the child in the upper part of the vagina, free applications were made by means of a syringe of a combination consisting of two parts of a four per cent. solution of cocaine and six parts of glycerine to the vaginal walls. It was also applied with a sponge to the vulva and perineum. Three applications were made at intervals of from twelve to twenty minutes. By this means the pain and sensibility was so far obtunded that chloroform was dispensed with entirely, and Dr. Kiester ventured the prediction that the time is rapidly approaching when local anæsthesia will supersede general anæsthesia in midwifery.

3. Doléris has advised the local use of a 5 p. c. solution of cocaine muriate to mitigate the pain of labor.

4. Dr. Charpentier expresses his views upon the local use of cocaine in labour as follows :—

(a.)—Nothing can be applied to relieve the pain caused by the distension of the lower segment of the uterus which causes the pain felt during the contractions. (b.) Applications of cocaine may give relief if they reach the nerve endings of the supravaginal and infravaginal portions of the cervix and the nerves of the vagina. Thus the pain of dilatation may be modified. (c.) For the pain produced by compression of the nerve trunks of the pelvis no local

application will avail. (*d*). The pain in the vulva and vaginal mucous membrane during expulsion may be somewhat modified by local applications. (*Vide* pg. 190.)

Subcutaneous injections of antipyrine, twenty-five centigrammes at a dose, have been used in a number of cases to produce obstetric anæsthesia. Chiari and Guéniot report good results from its use. (*Vide* pg. 59.)

Vide Anæsthetics.

FALSE (SPURIOUS) LABOUR PAINS.

1. First clear out the bowels by the administration of some *aperient*, such as *Ol. Ricini*, *Pv. Rhei Co.*, or *still better an enema* (as they generally depend upon an *overloaded rectum*), and follow this up with a dose of *Liq. Opii Sedat.*, or *Chlorodyne*, or with *Ether*, *Hyoscy.* and *Mist. Camph.*

2. *Viburnum Prunifolium* 723.

ANTISEPTICS FOR PUERPERAL CASES.

1. (*a.*) *R Hydrarg. Perchl.* grs. 154, *Glycerini* ozs. 2. *M.* Of this one teaspoonful added to a pint of water forms the solution 1 in 1000. For rinsing the hands. Half a teaspoonful to a pint makes a solution of 1 in 2000.


(*b.*) The Académie de médecine, of Paris, having recommended that midwives should be advised to employ a solution of **bichloride of mercury** in all obstetric cases, and that to avoid accidents it should be colored, a committee, including MM. Brouardel and Tarnier, and of which Dr. Baden is the reporter, recommends that the packets of disinfectant should be made up according to the following formula : ‘ Corrosive sublimate, 25 centigrammes ; tartaric acid, 1 gramme ; alcoholic solution of dry carmin of indigo (5 per cent.), 1 drop ; reduce to an impalpable powder.’ This quantity suffices for a quart of water.

2. Two tablespoonfuls of **Acid Carbolic** added to a pint of water makes a 1 in 20 solution. Half this amount makes 1 in 40.

3. **Sublimated vaseline** is composed of 2 grs. of Corr. Subl. and 2 ozs. Vaseline.


4. **Antiseptic vaseline** is composed of 1 part of Ol. Eucalypti and 7 of vaseline.

Sublimated Vaseline and Antiseptic Vaseline are useful for smearing the finger and instruments for vaginal examinations. The solutions of Carbolic 1 in 40 and Corr. Subl. 1 in 1000 are useful for dipping and washing hands and instruments, both before and after being used. Solution of Corr. Subl. 1 in 2000 is used for vaginal or uterine douche after operative measures, &c. Carbolic solution 1 in 40 may also be used for vaginal irrigation.

 **Precautions** necessary for employing Corrosive Sublimate in vaginal or intrauterine irrigation :—

The solution of corrosive sublimate of 1 per 1000 should only be employed in serious cases, tympanitis of the uterus, putrefaction of the foetus in utero, septic puerperal fever. The injection should be quickly given and should not occupy more than a minute and should be followed by a copious injection of distilled water.

The solution of 4 per 1000 should be injected only in cases of expulsion of foetus when in a state of maceration, in endometritis subpartu consecutive to expulsion of foetus in premature delivery. In puerperal endometritis, with foetid vaginal effusion. In these cases injection should be followed by an injection of pure water. Irrigation should be effected by a medical man only and should be submitted to a slight pressure and should be quickly effected. Vide Puerperal Fever.

 **Note.**—Irrigation by sublimate should rarely be used in cases of women suffering from *extensive wounds of the vulva* or those who have absorbed *mercurial preparations*; in cases of atony of uterus in *anæmic patients* and of patients suffering from *renal affections*. (Vide pg. 337).

5. Other antiseptics for obstetric cases (**antiseptic midwifery**) are : Creolin 231, Eucalyptine 263-4, Helenin 324 (5.), Hydrarg. Iodic 333, Hydronaphthol 357, Resorcine 611-2, Sanitas Oil 640 (1.), Sodii Fluosilicate 662, Thymole 709.

PROTRACTED LABOUR.

1. (Sp.) **Hydrarg. c. creta.**—10 grs. of *Hydrarg. c. creta* is the most certain, sure and effective remedy than the Ergot and all other drugs for protracted labour, retention of ruptured membranes or after-births and dead foetus. Within from half to one hour after its administration, the uterine contents whatever they be have been expelled. First there is motion of the bowels and consequent upon it is the uterine contraction. The remedy has been used with success for 50 years.

2. **Ipecacuanha.**—While the accelerating action of ergot in cases of lingering labour is universally known and acknowledged, there is another drug which, so far as I am aware, is not noticed in works on midwifery, and which yet is capable in such cases of rendering signal service ; I allude to ipecacuanha. Not only in cases of *rigid cervix*, where possibly it might be considered to act in a similar manner to antimony, but in cases of *simple inertia* in either first or second stage, it is a potent instigator of uterine contraction.

In the course of general practice extending over many years I invariably carried a bottle of *vinum ipecacuanhæ* in my midwifery bag, and rarely, if ever, gave a dose of ergot in the first stage of labour. Time after time on coming to a confinement case where the pains had been feeble and inefficient, or had totally ceased, two or three 10 or 15 minim doses of the wine at intervals of ten minutes have been followed in a surprisingly short time by energetic uterine action, with a rapid termination to the labour. It never produces the quasi-tetanic contraction so often met with as the result of ergot, the pains continuing to recur regularly just as they do in natural labour, but with greater force and at shorter intervals. Conviction of the value of the drug for this purpose induces me to give my experience of it, believing that its merits will be recognised by any who choose to give it a trial. (Thomas Drapes, M.B.)

3. **R Acid Acetic Fort., Liq. Strychniæ, â â. mins. 5, Aquæ oz. 1.**

M. It produces contraction of uterus when ergot fails.

4. **Chloroform.**—That in severe cases of labour where rigidity of os has caused an obstacle to delivery, the external use

of chloroform is very advantageous. Apply a piece of flannel soaked in a *mixture of chloroform and sweet oil* (1 to 2 or 2 to 1) to the abdomen between the symphysis and navel. Then by light strokes over the cloth, make sure that it is close to the skin. In severe cases, after 5 minutes, pour on more of the mixture. After from 5 to 20 minutes, the *rigidity is so much lessened* that any desired manipulation, such as turning, may be performed.

5. Other remedies for protracted labour due to **rigidity of os are** : Antimony, (sometimes it acts better when combined with Opium), Artificial dilatation either with the hand or by means of the air or water dilating bag, Belladonna 81 (8.), Chloral (I.), Chloroform (I.), *Gelsemium* 300, Bleeding (especially in stout plethoric subjects), Opium, Warm water stream thrown against the cervix by means of a syringe.

THE OBSTETRIC BINDER.

As a practitioner who has attended over 2000 cases of midwifery, and having paid perhaps more than usual attention to the binder, I wish to make a few remarks on the subject.

The binder, as commonly used, consists of a strong broad piece of diaper, a towel, or bolster-slip, or one of the shaped binders. A pad is very often placed over the uterus first, and pressure made upon this with the binder in a direction downwards and backwards. *It is applied (or should be) after the expression of the placenta, and not as I have frequently seen, directly after (or even before) the birth of the child.* The only cases in which the binder should be used during labour are those occurring in women with pendulous abdomens, a condition in which the child is carried, to use a midwife's term, "*forward.*" It may then be applied in the earliest stages, and drawn tight during each pain until the head engages the brim, when it should be at once removed. To apply it after the birth of the child and before expulsion of the after-birth is bad practice, as it is perfectly useless, and one cannot compress the uterus to express the placenta through a strong binder. Now comes the question, Why is the binder applied after labour? The answers are : (1) To counteract sudden lowering of the intra-abdominal pressure, and to assist the involution of

the abdominal parietes ; (2) to compress the uterus ; and (3) to comfort the patient. With regard to answer No. 1, as Dr. Herman remarks, the application comes too late to counteract intra-abdominal pressure ; and does support, or is it necessary to assist, involution ? When we see immense tumours or organs removed over which the skin and soft parts have been greatly stretched, and where no pressure is afterwards applied or could be borne, and observe how quickly the parts resume their normal appearance, and after witnessing involution after labour in animals, I think we may safely say that the abdominal parietes will involute without any pressure being brought to bear upon them. 2. Compression of the uterus. This may be divided into two kinds—viz. : (1) Temporary compression for the first few hours to prevent relaxation ; and (2) continuous and increasing pressure during the whole of the lying-in period. With the first of these I entirely agree. I think that steady pressure on the womb for the first twelve hours is decidedly beneficial. As to the second, let us glance for a moment at the condition of the parts directly after the conclusion of labour. The uterus has contracted to the size of a small cocoanut. It is heavy, its sinuses being filled with coagulated blood. The ligaments, sacro-uterine especially, are greatly relaxed. The vagina is patulous and relaxed. Now, what effect will the *continuous* pressure of a binder, in a direction downwards and backwards (Mr. Duke of Dublin recommends the pressure after labour to be applied downwards), have upon the uterus in its present state ? It will change its normal direction, one of slight anteversion, into one of slight retroversion and prolapse, bringing the heavy uterus with its relaxed ligaments into the line of a vagina the walls of which are unable to support it. What more likely to cause permanent prolapse than this ? Gynæcologists well know that the anatomical position of the uterus, and its relation to and the condition of the vaginal walls, are safeguards against prolapse. I have emphasised the word “continuous” by italics, as that is where I consider the danger lies ; the medical man is so careful, and the patient so particular to have the binder tightened to the fullest bearable extent, to improve the figure. I think a great proportion of cases of prolapsus uteri owe their origin to this.

treatment. (3) As regards the comfort of the patient. A great deal of this may be put down to habit and fancy. The woman has always been taught that a binder is necessary, and looks for it, and therefore fancies she feels better for it. *German women recover quite as well as English, and the binder is unknown to them.* The "pendulous belly" I do not consider to be owing to non-binding, but to the fact of too early getting up, before involution of the abdominal walls is complete.

In conclusion, I consider the binder may be of use in (1) the earliest stages of labour occurring in women with "pendulous bellies;" (2) as a temporary support after labour (say, for twelve hours). It is detrimental if (1) applied before expression of the placenta, or (2.) continuously after labour. Should a binder be imperatively demanded, I would suggest cutting out a circular piece of it, of which the centre would be midway between the umbilicus and pubes, thus leaving the uterus free from pressure. I also consider the prone position, as soon as the patient can bear it, occasionally will relieve the passive hyperæmia which is apt to occur in the long-continued dorsal position. (Harry Burton, M.R.C.S., L.S.A.)

THE BEST METHOD OF DELIVERING THE AFTER-COMING HEAD.

Eisenhart believes the best method of delivering the after-coming head to be by *inserting the longest finger of the left hand in the child's mouth, as far as the base of the tongue*, the child being astride the forearm. With the right hand pressure is made downward and backward behind the symphysis pubis upon the head, the greater force being exerted by the right hand. In fifty cases so delivered at Munich the chances of delivering a living child were seven times better than by other methods; an equal advantage to the mother in freedom from laceration and successful recovery was also observed.

THE FORCEPS IN BREECH PRESENTATIONS.

Tarnier has found the application of the forceps over the trochanters of the femora of especial advantage in delivering breech

presentations. When applied in the bis-iliac diameter damage may be done to the child and the instrument will slip. Over the trochanter a firm grasp is obtained, and Oliver's series of experiments failed to show injury to the fœtus. Tarnier would apply forceps when it is impossible to bring down a foot by the introduction of the hand. He considers the forceps safer than the hook, as fracture of the femur is frequently caused by the latter. The fillet, or band of tape, may be used to advantage in some cases with the forceps. The axis-traction instrument is preferable.

PUERPERAL HEMORRHAGES.

THE HEMORRHAGES OF PLACENTA PRÆVIA.

Diagnosis of Placenta Prævia by Palpation.—The patient should lie on her back, the bladder having been emptied; the examination should be gentle, made in the absence of pains, prolonged for several minutes, or repeated if needed. When the placenta is in front of the head, it is felt as spongy mass between the fingers and the head. Its edge feels like the segment of a circle within which the touch is obscured; outside the child is plainly felt. Impulses to the head are not clearly felt through the placenta; impulses to the head through the abdominal walls are distinctly felt where the placenta is absent. Seven cases of placenta prævia have been reported, in which diagnosis by abdominal palpation, was made of the placenta in, or its absence from, the front wall of the lower uterine segment, the diagnosis being subsequently verified by internal examination. The cases were head presentations in multiparæ, before pains were present, and the membranes had ruptured. In 3 cases the exact site of the placenta on the front wall of the lower uterine segment was determined; in two cases the placenta was felt when, by vaginal examination it could not be found. The absence of placenta from the anterior wall was diagnosticated in four cases (Spencer.)

1. If the *bleeding comes on before the seventh month and is only slight*, it may be possible, by *rest in bed and application of ice to the abdomen and vulva*, to stop the hemorrhage till the child is viable. If, however, the **hemorrhage is profuse**, whether the child is

viable or not, labour should be brought on immediately, as any recurrence of the hemorrhage may prove fatal. The membranes should be punctured and the vagina plugged or a Barnes's bag inserted into the cervix; by this means the hemorrhage is controlled and the cervix dilated. In about 8 hours, the plug or Barnes's bag should be removed, and if the os is dilated, and the hemorrhage stopped, and the presentation normal, the case may be left to nature; if, however, the hemorrhage still keeps on, **version** should either be performed and the labour concluded, or, if the head is well within reach, the **forceps** may be applied. As the hemorrhage comes from an area of about 2 inches radius from the os internum, and as it ceases when the placenta is detached over this area, separation of the placenta by the finger from this area is recommended by Barnes with a view to controlling the bleeding.

Turning in Placenta Prævia.—If the placental attachment be marginal the operation of turning is easy enough. When the attachment is central the fingers should be passed gradually between the edge of the placenta and the uterine wall till the membranes are reached; turning should then be performed, and a leg should be seized and brought down into the cervix. The pressure of the limb in the cervix acts as a plug and prevents the hemorrhage. (Samuel Nall, M.B., M.R.C.S.).

2. Dr. J. J. Healy, who had several severe cases in a practice of rather more than sixteen years, and whose average of obstetric cases for years had been fully two a week, had been always successful in his cases of placenta prævia. He gives his experience as follows: The first thing to do when you are in presence of a patient who is flooding, in consequence of this puerperal anomaly, is to effect forcible delivery. If the os is not dilated, perform *manual dilatation*, use Barnes's bags, anything that will enable you to get your hand into the womb; push to one side the placenta or get your hand by it as best you can, *find the feet, and perform version*. My cases have all been treated in a manner very similar in detail to the following which had some complications that were peculiar, and was certainly as desperate as any case with which I have had to deal.

“January 20th 1890, was summoned to attend Mrs. A.B., of Byfield, multipara, eight and a half months pregnant; was reported as

not in labor, but as flooding. From 1 P.M., till my arrival at 4-30 P.M., had been flowing at intervals ; the loss of blood was great ; there were pools of blood on the floor, and the bedclothes were saturated. On making examination, I found the vagina full of clots. The os was dilated and dilatable. I removed all the clots ; inserted two fingers into the os and cervix. I felt what seemed to be a large, firm clot, that I could not start. This I soon found to be the *placenta, centrally implanted*. The patient was *nearly moribund* from loss of blood ; pulse small and filiform. On the right side I found the *placenta partially detached from its site* ; I was enabled to insert my hand. The patient became violent and maniacal ; I was obliged to desist, and to *forcibly etherize her*. Then I *passed my hand into the uterus*, and found the head presenting. I passed up my hand by the head, felt a foot, and brought it down ; there was no difficulty in completing *version*, and delivering the woman of a dead child. Then I removed the placenta. The woman was cold and pulseless for two hours afterwards. I gave *hypodermic injections of ether and brandy, and injected ergot* ; I also gave *ergot by mouth*. Finally, after I had given up all hope, the patient rallied, and made a slow but good recovery."

3. The method of treatment of **placenta prævia** most approved at the present day, as being the *most rational, and saving far oftener the life of the mother and the child than the older methods*, is that advocated by Braxton Hicks and Richard Lomer. Hicks first recommended *external and internal mode of version, which does not require that the whole hand shall be introduced into the uterus in the case of only partially dilated cervix, but only two fingers, the fœtus being so manipulated by one hand over the mother's abdomen as to be brought within the control of the accoucheur's other hand*. Lomer endorses the method with additions of his own, and insists especially on the necessity of the utmost slowness and gentleness in making the tractions. The accoucheur, *having got hold of one or both feet, should draw down during the pains*. The hemorrhage can now be controlled, for the head and body of the child make the best possible tampon, and slow delivery prevents laceration of the cervix and perineum. Lomer does not think that it makes much difference, practically, whether the insertion of the placenta be *central or lateral* ; in any event, it must be *sufficiently separated from its attach-*

ments to allow two fingers or the whole hand to enter the uterus. In the case of cervical implantation, it may be necessary to perforate the placenta with the finger before version can be accomplished. In case of *rigidity of the os and cervix* Lomer favors *the tampon as a preparatory measure*, the vagina being thoroughly packed with charpie or wads of cotton, which may be left in from twelve to twenty-four hours. This tamponading will effectually control hemorrhage and give the os time to dilate. There is a general consensus among all modern obstetricians that *early delivery in placenta prævia* (and the earlier the better after the diagnosis is made) *is demanded*. It is never best to let the woman go to her full term with the hope of saving both child and mother. It is not to be expected that many women will consent to artificial means for expediting delivery unless alarmed by flooding; but when hemorrhage sets in, there should be no more delay; the accoucheur should insist on conducting the case to a speedy termination. (E. P. Hurd, M.D.).

ACCIDENTAL HEMORRHAGE.

The *membranes should be ruptured*, a drachm of *Ext. Ergot. Liq.* given, and a firm binder applied over the uterus; the bleeding may then cease, and the labour may be left to nature; if, however, the *hemorrhage still continues, and the os is not dilated*, Barnes's bags should be used, and the labour finished by turning or forceps.

In one severe case where it was impossible to effect a speedy delivery on account of the *rigidity of the os*, Dr. E. P. Hurd gave 60 drops of *Laudanum* and *packed the vagina with cotton battng.* This only temporarily controlled the bleeding and in an hour when he removed the tampon, the os and cervix had, however, become much softened, and were dilatable. He ruptured the bag of waters and delivered the woman by turning.

POST-PARTUM HEMORRHAGES. POST-PARTUM HEMORRHAGE FROM RETAINED PLACENTA.

1. These are, and ought to be, rare. The accoucheur waits a reasonable time,—fifteen minutes or half an hour. If the uterus does not of

itself expel the placenta, he extracts it by Credé's method, or some modification of that method. I have generally found that firm grasping of the uterus through the abdomen and kneading with the fingers, while with the other hand gentle traction is made on the cord, is sufficient. In case of rather profuse flooding, Credé's method, in all its essential details, should be resorted to. Unless there are adhesions, the after-birth is easily delivered in this way, and firm uterine contraction obtained. In the event of *adhesions*, the case may present a serious aspect. In one case where the adhesions were only partial, I easily removed with the fingers (the whole hand being introduced into the womb) the greater portion of the placenta. The uterus was kept aseptic by suitable injections, and ergot was given. On the third day the remainder of the placental mass was expelled. (E. P. Hurd, M. D.)

2. Recently in a bad case of retention of an adherant placenta, Dr. Stéphane Bonnet well washed out the vagina with sublimate solution, and with the aid first of a small, and then of a large **curette**, removed a foetid placenta. It adhered and required free scraping, which set up hemorrhage, and syncope seemed imminent. An intrauterine injection of hot water stopped the flooding and the uterus began to contract well. Its cavity was swabbed with *creasoted glycerine*. **Iodoform gauze** was pressed into the cavity and the vagina was plugged with the same material. Next day the temperature was high; the swabbing was repeated; in the evening foetor was observed in the discharge, and Dr. Bonnet explored, and removed a fragment of placental tissue. The uterine cavity was then swabbed with pure **creasote**. The patient steadily improved and ultimately recovered. Dr. Bonnet considers that this particularly bad case of retention of an adherant placenta shows the value of the **curette**. Simple detachment with the fingers is insufficient; whilst **Porro's operation** (only to be thought of soon after delivery, that is before there can be any time for the placenta to putrefy) is an unjustifiably severe proceeding.

POST-PARTUM HEMORRHAGE FROM INERTIA OF THE UTERUS.

Prophylactic Treatment.—1. Madden advocates **prophylactic measures** in the latter months of pregnancy for

the purpose of warding off the possible occurrence of flooding after delivery. This is especially necessary in dealing with *multiparæ*, who are thrice as liable to that complication as patients in their first labour. He has, therefore, for many years made it a rule to administer tincture of **perchloride of iron, or some other ferruginous tonic**, for a couple of months or so before the expected date of confinement. With the same object the patient should also be made to wear a well-fitting **abdominal belt or binder throughout the latter months of gestation**, as suggested by Dr. Duke. The support thus given to the distending uterine walls and abdominal parieties is not only a great comfort to the patient, but is also, as it is found by experience, most useful in increasing the contractibility of both, and thus warding off subsequent hæmorrhage. He points out that the state of the circulation during, and at the termination of, the second stage, affords a very important indication as to the probability of post-partum hæmorrhage. He advocates **manual compression of the uterus** as the child is forced down, and he endeavours to render this *more certain* by administering **ergot** in full doses as soon as the **os is fully dilated**, there being, of course, no other obstacle to delivery than want of expulsive force. He points out that when ergot is given in cases in which there is no obstruction to delivery no drug has yet been found of equal value in the treatment of leading to subsequent hæmorrhage.

2. Küstner regards post-partum hemorrhage as generally *caused by improper management of labour*. Uterine hemorrhage may be *avoided by emptying the uterus slowly; the child's body should never be removed forcibly*, but should be expelled by uterine contractions; *traction should be made by forceps with the pains only*. The *third stage of labour* should be *carefully managed*. *Rapid delivery of the placenta should be avoided*; at least fifteen minutes should elapse before any effort is made, and then *uterine contractions should be aided*, not superseded, by pressure. In all cases efficient contractions of the uterus should be ensured by giving Ext. Ergot. Liq. dr. 1, after expulsion of the placenta, and by manual compression of the uterus, after which a well-fitting binder should be applied. *Cornutin* is thought the best preparation of ergot for use in these cases.

3. A good precautionary means on which most obstetricians now insist, is the administration of *a full dose of ergot* just before the birth of the child. Some accoucheurs make a practice of *standing over the patient, the left hand grasping the uterus through the abdominal walls, and keeping up firm compression, with frictions and kneading, for an hour, or even more.* This practice, which is a good one in some cases, is really seldom necessary. A healthy woman, who has not been exhausted by her labor, will not be likely to flow too much. (E. P. Hurd, M.D.)

Curative Treatment.—1. As soon as the alarm of a dreadful flowing comes, the head of the patient is to be lowered, and the foot of the bed to be raised. A *hypodermic injection of fl. ext. of ergot* must be administered, and repeated in ten minutes. The uterus and vagina must be cleared of clots, and *hot water*—as hot as can be borne : 115° to 120° F.—must be *injected* into the uterine cavity. There is no fear of doing harm by intrauterine injections at these times, for the water will readily run back through the patulous os. Where a fountain syringe has not been at hand, I have frequently used the Davidson syringe with the long canula. It is well to have the terminal end closed, though I have not always taken even this precaution. **Vinegar** is a good styptic with which to medicate the water, and is generally at hand ; use **equal parts of strong vinegar and water.** Playfair, Barnes, Chambers, Atthill, Steele, and others, recommend the **perchloride of iron** ; three fluidounces of the *tinctura ferri muriatis* to a pint of water is Steele's formula. On the other hand, writers have pointed out the dangers attending perchloride of iron injections, and Beck declares that he has known *death* to attend their use. Dr. Grailly Hewitt, referred to a case in his own practice where *death had followed the perchloride injection*, probably from absorption of the styptic and consequent blood-poisoning. He prefers vinegar, 1 part to 2 or 3 of water, which, he thinks, can never be harmful. I believe that the use of the perchloride injections is to-day generally abandoned ; at least, in this country.

Whether the water be medicated or not, *a considerable quantity should be injected.* In order fully to control the hemorrhage, it may be necessary to inject several gallons. *Place the patient cross-wise in*

bed, with the hips drawn well over the edge. A rubber sheet under her protects the clothing and the bed, and conducts the water into a pail below. **The water should be as hot as can comfortably be borne—115° to 118° F.**—when poured into the fountain-bag. Dr. Fordyce Barker affirms that this treatment will always “*positively, absolutely, and efficiently control uterine hemorrhage.*” His experience coincides with that of multitudes in the profession, who now rely on the hot-water injections.*

Nevertheless there are many who still pin their faith on cold applications,—**ice over the pubes, ice in the vagina.**† I recall to mind a very severe case that occurred in my practice in 1867 ; this was before the hot-water treatment had come into vogue. The patient was a multipara. After a somewhat tedious labor, marked by uterine inertia, I delivered the woman with forceps, under chloroform. The placenta was extracted without difficulty. There was at first but little flowing, but there was soon supervention of flooding. I found the patient blanched and almost pulseless ; the bed clothes were drenched with blood ; blood was also standing in pools on the floor. I placed my hand over the abdomen and grasped the uterus ; it was large, loose and flabby. I injected ergot and kneaded the uterus ; the hemorrhage continued. I poured cold water from a height upon the patient’s abdomen, the left hand still grasping the uterus. This produced a shock, which at once contracted the uterus and arrested the

* In some hospitals, a Davidson’s syringe is used in preference to a fountain syringe, “as an intermittent stream has been found more effectual in exciting contractions than a continuous stream.” The canula is introduced to the fundus. The douche must be used at least 20 minutes at a time, and the water kept hot by continued addition of fresh supplies. The patient should be always on her back, with the hips higher than the rest of her body ; the vagina thus keeps filled.

The fear which the older obstetricians manifested in reference to introducing the hand into the uterus for the purpose of arresting post-partum hemorrhage,—a practice which Dewes condemns as pernicious,—is hardly justifiable in these modern days of antiseptic midwifery, when the accoucheur is careful to render his hands thoroughly aseptic before attempting any obstetric manipulations.

† A writer in the *Medical Press* has recently called attention to the danger of ice in post-partum hemorrhage, as several cases in which the hemorrhage was checked by the introduction of pieces of ice into the uterus have been followed by symptoms of septicæmia. This fact, he says, taken in connection with the recent researches of Prudden as to the presence of living bacteria in ice, may, perhaps, point to direct septic infection from the use of ice.

The best *preventive* of post-partum hemorrhage, according to Jaggard, is to secure retraction of the uterus by keeping the hand on the fundus uteri from the moment the child begins to pass through the vulvar outlet until the muscular fibres have rearranged themselves,—about one hour after expulsion of the placenta.

bleeding. When I ceased pouring the water the hemorrhage returned. I was obliged to keep up this cold douching for more than an hour. I gave at the same time whiskey freely, several times injected ergot, and kept my patient covered with dry blankets everywhere except over the abdomen. †

Faradization is an excellent means for arresting post-partum hemorrhage, when due to inertia of the uterus. The little pocket Gaiffe battery answers a very good purpose. One electrode (an olive-shaped bulb) should be inserted within the uterus, and the other should be firmly pressed upon the fundus over the abdomen. A pretty strong current should be used. "The experiments of Radford, Robert Barnes, and Mackenzie demonstrate that under its power the uterus can be made to contract, even when it resists the influence of what may be called the diastaltic remedies." ‡

Dr. Dührssen's practically new treatment for atonic post-partum hemorrhage consists in tamponing the cavity of the uterus. "The cervix is seized with one or two volsellæ and drawn down to the vulva, or the plugging may be done through a duck-bill speculum. The end of a gauze bandage is then seized with a long speculum forceps, the left hand grasps the fundus uterî, and the end of the bandage [which is a continuous one] is then packed into the uterus bit by bit. The vagina is next packed in a similar manner, or, if there is cervical bleeding, with tampons of cotton-wool. Care must be taken that the packing material is not defiled on its passage into the uterus; for, in the only fatal case from sepsis, the gauze bandage [which had previously been soaked in boiling-water] had been allowed to trail on the floor." The best material is a long, gauze bandage sterilized and soaked

† In this connection, attention may appropriately be called to papers read before the American Gynecological Society by Drs. Wilson, of Baltimore, and Penrose, of Philadelphia, on the treatment of post-partum hemorrhage. The former recommended the use of the hand as a curette to scrape the surface from which the placenta had been detached, and the latter the introduction of common vinegar into the cavity of the uterus on a piece of soft sponge or rag. At the stated meeting of the New York Academy of Medicine, February 5th 1880, Dr. Isaac E. Taylor advocated flagellation of the child's back previous to its entire delivery, as a means of preventing uterine hemorrhage, and flagellation of the abdomen of the woman after delivery of the placenta as a substitute for the introduction of the hand into the cavity of the uterus. The flagellation of the child consisted in quick, not harsh, blows with the hand over the child's back after delivery of the shoulders; and flagellation of the mother was performed after delivery of the placenta by powerful and frequently repeated strokes over the exposed abdomen with a towel doubled and the ends held in the hand, the doubled end being wet in ice-water.

‡ Charpentier, *loc. cit.*, vol. iii. p. 237.

in five per cent. carbolic solution, or iodoform gauze ; and, in default of this, strips of linen, sterilized as above, the vagina being packed with iodoform or salicylic wool. The plug is left *in situ* not longer than eight hours. Dr. Dühressen's cases are twenty-nine in number, many of which were exceedingly grave ; there were six deaths, one from sepsis. (E. P. Hurd, M. D.)

2. In the event of a very severe post-partem hemorrhage, try ergotine hypodermically or hot vaginal or rectal injections ; but these may fail. For the maintenance of the tonic action of the muscular tissue in the uterus—the contraction of which arrests hemorrhage—Dr. Ferguson has found the *application of heat to the lumbar portion of the spine* very useful. It stimulates this portion of nervous system by bringing more blood to it. There is greater influx of nerve-energy to the uterus and contraction is brought about. But when all things fail, as fail they will at times ; when ergotine, acetate of lead, in large doses, hot injections and heat to the spine disappoint us, we have **one last resort,—tampon the uterus and vagina thoroughly with iodoform gauze**, or, if this be not hand, some cloths to which **glycerine** is added. This plan will **seldom fail**. The bleeding is soon arrested, the uterus begins to contract, tone in its walls is secured, and one can feel at ease that the patient is out of danger.

3. If, notwithstanding all those precautionary measures described at page 1086-7, para 1, post-partum hemorrhage should nevertheless occur, and assuming that the placenta and membrane have been completely expelled, and that—as is the case in the majority of instances we are dealing with, flooding from imperfect contraction or inertia of the uterus—then the fundus being still grasped from above, a strong **solution of alum** in water, as hot as can possibly be borne by one's own hand, should be thrown into the uterine cavity until, all clots and *débris* being cleared away, the water returns clear and the uterus contracts firmly. Should that, however, not soon be the case, then no time should be wasted in trying any of the vaunted styptics sometimes relied on (of which, I may add, probably the two best are Dr. Barnes's strong solution of **perchloride of iron**, and secondly **common turpentine** ;) but the hand—first, of course, thoroughly cleansed

and rendered aseptic by the use of strong carbolic soap and the nail brush—should be at once introduced gently and carefully into the uterine cavity, counter pressure being at the same time made from without by the other hand, the grasp of which over the fundus should never be relaxed until that firm and permanent contraction which is essential for the safety of our patient has been effectually secured. (Madden.)

4. (Sp.) **Intra-uterine Compression of the Aorta.**—**The extra-uterine methods** employed to check post-partum hemorrhage, which are the ones generally used, and which include the use of *cold applications to the abdomen, ventral compression by the bandage, pressure upon the uterus with the hand, abdominal compression of the aorta and galvanism*, and **the intra-uterine methods** which include *the intra-uterine tampon, the introduction into the uterine cavity of ice, lemon-juice, vinegar, solutions of iodine, of perchloride of iron, or of water at a temperature of 40° to 50° C.*, are considered by Sejournet as *useful but inefficient*, for they presuppose materials, assistants, and apparatus which may not be at hand when the *emergency arises*. The method which is advocated is intra-uterine compression of the aorta. The *right hand*, having been carefully *disinfected with sublimate*, is to be *passed into the uterine cavity, and the aorta*, which can readily be found, is to be *compressed against the vertebral column*, compression being required for only a few seconds, when the flow will be arrested. This method has been practised with success in a number of cases by the author, and by Budiger, of Tübingen, who described it ten years or more ago, in twenty cases. The method has also been described by Böer and by Jacquemin and disapproved by both. Objections which have been made are that the *uterine hæmorrhage at such a time is rather venous than arterial*, also that the compression does not affect the uterine and ovarian arteries. In spite of theoretical objections, the method may prove serviceable in an emergency.

5. (Sp.) R. Ext. Ergot. Liq., Acid. Acetic. Fort., ââ oz. 1, Ether Sulph. drs. 4. Mix in a stoppered bottle. Give drs. 3 in an ounce of water. An unfailing remedy for post-partum hemorrhage from non-contraction of the uterus, and it also gives sleep to the patient.

6. (Sp.) Dr. Misrachi highly recommends the use of **injections of Caffeine** in cases of post-partum hemorrhages where rapid assistance is necessary, and especially when physician first reaches the cases after there has been already considerable hemorrhage. According to the author, Caffeine acts more rapidly than Ergot, and produces a more effective result even than Ether, although the latter is a more rapid stimulant. He administered it in the form of a solution, of which a hypodermic syringe-ful would contain four grains of Caffeine, and gave three or four injections at once,—in other words injects hypodermically about sixteen grains of Caffeine. He employs Caffeine, rendered soluble by the Benzoate of Sodium, equal parts of each being dissolved in warm water. It produces a most remarkable result in arresting bleeding and in acting as a stimulant.

7. Hemorrhage from the vagina and cervix, may be immediately checked by closing the lacerated tissue by a stitch or by an antiseptic tampon.

8. F. 2, Menorrhagia.

9. Antipyrin 60, Chloroform 168 (*b.*), *Ergotinine* 249, Hamamelis 319 (2.), Hydrastin 349, *Hydrastinine* 351, *Rhus Aro.* 616 (4.), Viburn. Prun. 728 (10).

SECONDARY HEMORRHAGES.

1. These hemorrhages occur after delivery of the placenta and during the period of convalescence. They may be due to retention, through carelessness, of portions of the secundines ; to laceration of the cervix (a severe case that occurred under my observation was of this kind) ; to a separation of thrombi at the placental site, or to a subinvolution. The latter is oftener the true cause.

In the treatment of these hemorrhages absolute rest in bed must be enjoined, and a thorough exploration of the uterine cavity should be made, and any foreign substance (polyp, shred of membrane, fibrinous clot, etc.) removed by the curette. The endometrium should be thoroughly cleansed by a hot-water injection, and medicated with Churchill's tincture of iodine, applied on a cotton-wrapped applicator. Any laceration of the cervix should be treated, if possible, by Emmet's method. Grandin advises argent. nit., dr. 1 to the oz. 1 to the erosion. Ergot

internally, with electricity and the daily use of the hot douche, will be required. Mundé, in a review of the causes of secondary hemorrhages, enumerates *certain rare causes*, such as hemophilia, functional disease of the liver, malarial poisoning, and disease of the endometrium. Here etiological considerations alone will suggest the appropriate treatment.

I have seen bad cases of secondary hemorrhage as the result of allowing the lying-in woman to **sit up too soon after confinement**. Rest in bed, with hot douches, and **ergot and hydrastis** (20 drops each of the fluid extract of ergot and tincture of hydrastis Canadensis three times a day) have been all the treatment required. In two instances, I have known the heavy, flabby uterus to retrovert after parturition; this accident happened to the patient when sitting at stool. Severe flooding came on, which only ceased on reposition of the womb and the insertion of a Thomas pessary. (E. P. Hurd, M. D.).

2. In chronic hyperplastic conditions, in the earlier stages of uterine subinvolution, in the "secondary hæmorrhages" (McClintock) that follow abortion, miscarriage, or labour, **hydrastis**, in combination with other astringents, will be found valuable, both administered internally and applied locally. (Dr. MacNaughton Jones.) *Vide* pg. 349 (5.).

3. If called to a case of more remote or secondary post-partum hæmorrhage—in which, though there may be no external loss, the symptoms of collapse shortly after delivery point to the occurrence of internal or concealed hæmorrhage—the binder must be at once removed, the clot pressed out, and the hand, if necessary, introduced and retained *in utero* until its secure contraction is obtained. (Madden).

RUPTURE OF THE UTERUS.

Leopold reviews the recent writings of Veit, Piscacek, and Winckel, on this subject, and from his experience and study concludes that the following is the best method of treatment:—

The abdomen antiseptically cleaned, a vaginal douche and vaginal tampon of iodoform gauze; there should be ready sterilized or iodoform gauze cut in strips three finger-breadths wide and the length of the forearm, stimulants, ergotin solution, towels, hot water, and one quart of salt solution six-tenths per cent., this should be injected subcutane-

easily, not by intravenous injection. The abdomen should be opened under light narcosis, the child gently removed through the rent in the uterus, the placenta is sought by following the cord and removed, and amniotic fluid and blood are carefully sponged with bits of gauze. The edges of the rent may be trimmed and stitched together, which generally stops bleeding. When it is impossible to suture, a strip of gauze folded many times upon itself, to make a firm tampon, may be placed in the rent, one end brought out at the vulva, the other end remaining in the uterus; the uterus may be pressed firmly down into the pelvis, the edges of the rent in the peritoneum brought together, and gauze packed firmly about the uterus, the end being brought out at the lower end of the abdominal incision.

The **Porro operation** remains for those cases where other methods fail, and in this the gauze tampon is of use in preventing bleeding about the point of rupture. It is of the greatest importance in these cases that the source of the bleeding be treated as soon as possible; intra-abdominal hemorrhage is the rule, and may be severe.

Leopold adds three cases of which the following is a typical one: Complete rupture on the right side of the uterus in a syphilitic patient caused by efforts at delivery; the breech escaped; perforation and cranioclasia; the edges of the rent brought together as well as possible, and iodoform gauze tampon introduced per vaginam, with a pressure bandage over the uterus. Saline solution subcutaneously; recovery.

SUBINVOLUTION OF THE UTERUS.


1. **F. 2. Secondary Hemorrhages.**
2. Digitalin, Ergotine, Gossypium 308, Hydrastine, 349, Strychnine, Viburn. Prun. 728.

PHLEGMASIA ALBA DOLENS (WHITE LEG.)

1. To relieve the pain, the patient should rest in bed; the bed clothes should be kept off the limb by means of a cradle; poultices or opium fomentations should be applied; and if the pain keeps the patient awake a hypod. injection of morphia may be given. Bleeding and other active means are to be avoided. To favour absorption, after the pain has subsided the limb should be evenly bandaged from below

upwards, and raised slightly ; it may also be bathed gently with warm water daily, but rubbing the limb must be avoided for fear of detaching emboli. Whilst there is any pain and fever the diet should be fluid and light ; afterwards, when absorption begins the diet should be more nutritious, and tonics be given. (S. Nall, M.B., M.R.C.P.).

2. Phlegmasia Alba Dolens is effectively controlled and speedily relieved by **Opium** combined with a little **Calomel** given to the point of making the patient quite comfortable. **Salicylate of Soda** is another drug useful in the disease.

 Note.—The disorders of pregnancy and other puerperal diseases are treated at different places in the work and to these the reader may refer by means of index.

OLD AGE.

Three things are to be considered —

First, the protection from untoward influences, from exposure to which a large proportion of those die who are said to die of old age. One of the best protection from cold is a **buckskin Jacket**. Every one who is 75 years of age and whose physical powers are beginning to fail, should be put into a buckskin jacket extending from the shoulders to the hips. There is no flannel, silk or anything else which will compare with buckskin in preventing chilling of the body. Chilling of the surface in an old person means a rush of blood to the internal organs, where from weakness of the vaso-motor system and the condition of the vessels, contraction cannot take place and the congestion even apt to be followed by pneumonia or other inflammatory result. Such patients should be specially guarded against exposure to winds. *Damp has slain thousands among aged and high winds tens of thousands.* The caution is applied not only to aged but to all cases where there is cardiac failure. *High winds* lull the surface, oppress respiration and are exceedingly disastrous to life of any person whose circulation is without power. There is no need of preserving nervous system from all shocks. Fortunately as the *intellectual powers* become blunted, so do the *emotional energies*, and the old man is not so susceptible to emotional disturbances as is the man whose nervous system is unaffected.

by age. *All accidents of course are to be carefully guarded against and all excessive bodily or mental exercise. Rest is of great importance. Indeed old people should spend many hours in bed.*

The next point is in reference to **diet**. Food should be light but nutritious. Stimulating food should be withdrawn. Meat used sparingly. Man who begins milk should in the last years of his life make milk the chief article of diet.

Finally in regard to **medicines**:—There are 2 drugs which are of the greatest importance to old people. These are **Alcohol and Opium**. If your patient approaching his 80th year can be made an **Opium eater**, you will in the majority of cases **protract his life many months or years**. Every old person should take alcohol in some form 3 or 4 times a day. It should be given at meal times. **Diluted liquors** answer best and in others wines are most serviceable.

OPHTHALMOLOGY.

Short Notes on Ocular Therapeutics.

Cleanliness in Ophthalmic Surgery has a wider significance as well as the use of antiseptics. The *eyedrops* used should be *boiled and filtered* if suspected and then used for the eyes. **Infection**, is transmitted from an affected eye to the fellow one as in case of *specific inflammation, purulent conjunctivitis, croupous or diphtheritic attacks*. To place a small piece of **antiseptic linen (boracic acid)** over the eyelids, lightly closed with thin strips of **isinglass plaster**, wet with a **carbolic** (1 per cent.) solution and to secure it to the skin with **collodion** and place over all **salicylic wool** and fix it with ordinary **adhesive plaster or dressing bandage**. *Injurious effects often follow the wearing of eyeshades which press on eyelids and collect discharges and secretions.* In that most fatal of affections, **acute blenorrhœa of infants**, how many times might we not save sight by the precaution of using an **antiseptic vaginal wash regularly before labour**, combined with careful attention to the eyes of infant and the application of antiseptic ointment (**carbolyzed vaseline**) and lotion (**boracic acid**) from birth. The ointment composed of

Ung. Hydrarg. Nitr. grs. 3, Hydrarg. Oxidi
 Rubri grs. 3, Acidi Arseniosi gr. $\frac{1}{3}$, Ol.
 Amygdalæ mins. 10, Vaselini dr. 1,

is a most useful one in troublesome **Blepharitis** attended with follicular inflammation and discharge with crusting and in other palpebral conditions.

Pediculi are found in cilia of the eyelids ; *paring the lashes, enforced cleanliness and use of mildest mercurial ointment* is sufficient to effect cure.

In eye diseases weak **antiseptic solutions** are in practice valuable and essential agents. They are **Carbolic Acid** $\frac{1}{4}$ to $\frac{1}{2}$ p. c., **Salicylic Acid** $\frac{1}{2}$ p. c., **Boracic Acid** $\frac{1}{2}$ p. c.

Rest, pressure and counterirritation are the essentials in the treatment of **inflammations**. *Prevent frictions of eyelids on the globe by light strips of adhesive or isinglass plaster ; relieve hyperdistension and diminish tension by mydriatics and myotics (q. v.), by the use of pressure, by the application of leeches, by deep counterirritation, by paracentesis of the cornea, by sclerotomy and iridectomy ; when we relieve the blepharospasm of phlyctenular corneitis by section of the external palpebral ligament ; in the reduction of intraocular vascular tension by the subcutaneous injection of pilocarpine &c.*

Setons are used in eye affections.

Blisters to the temples and behind the ear, are at times useful adjuvants.

Leeching is of greatest value as a depletion in controlling inflammations in the eye as *acute conjunctivitis, iritis, sclerotitis, cyclitis, gouty retinitis*. Yet in practice it will occasionally be found that *leeching near the eye serves to aggravate the inflammatory state* by a reaction which sets in a little time after the leeches are removed. In such cases it is wiser *not to repeat them*. In *chronic conjunctival, sclerotic and iritic troubles*, the occasional leech, one or two applied every other night has a good effect in *checking and arresting inflammations*. In **chemosed** condition of conjunctiva, *incise external commissure*. In **purulent ophthalmia** *scarify the swollen*

conjunctiva. In severe **chronic granulations** on the palpebral conjunctiva I have assisted other treatment by periodical *linear scarification*. After *wounds of conjunctiva and cornea*, if pain sets in and inflammation threatens, 4 to 8 *leeches to the temple* will subside symptoms often.

The influence of **cold** and **heat** judiciously applied in checking inflammatory action in the eye is important; they also relieve pain and give rest to the inflamed eye. Poultices which promote congestion and suppuration are applied when necessary for either process. The more indolent the corneal infiltration and stationary or non-vascular the ulcer, the more are warm compresses and fomentations indicated. Generally **warm fomentations** I have found of service in phlyctenular and pustular conjunctivitis, in croupous conjunctivitis, in chronic granulations, in pannus, in fascicular and interstitial keratitis, in non-vascular and indolent semicircular ulcers of the cornea, in Sæmisch's ulcer, after the removal of foreign bodies from the eye, in the early stages of iritis.

On the other hand **cold** I believe is indicated in the early and acute stages of catarrhal, granular, follicular, purulent and diphtheritic conjunctivitis, in certain painful palpebral ulcers of the cornea, after peritomy, inflammations threatening after operations, in recent retinal extravasations. In many of these *iced compresses may not be indicated*, but the antiseptic solutions (carbolic, boracic or salicylic acid) or sedative (belladonna or opium or chamomile) may be used cold and frequently renewed by either the patient or nurse.

Dr. G. H. Herbert strongly recommends the use of a 5 per cent. solution of carbolic acid in **gonorrhœal ophthalmia**, especially in those cases of deep and transparent excavation of the cornea which are so often followed by perforation and prolapse of the iris. It is equally useful when there is serious **chemosis** and swelling of the ocular and palpebral conjunctivæ where œdema is so great as to render the eyelids hard and dense. In gonorrhœal ophthalmia, keep the patient in bed, place a large, basin of *ice cold water* with which eyes are bathed and a *carbolic lotion* between lids every hour.

In syphilitic conditions whether of *Retina, Choroid or Iris*, the early administration of **mercury** combined with the applications of **mydriatics** is a very important therapeutical indication to be remembered. Most important is it to insist on the importance of the early recognition of syphilitic taint in infants and young children. I have known several children who have safely passed the critical period of life, puberty, without ocular, nasal or aural mischief of any kind, who had syphilitic manifestations when infants and who were cured by specific treatment, systemetically continued for some time, who, but for it, would now have some permanent lesion. I have *never seen* the course of *mercurial inunction*, secured by rubbing in small pellets of mild mercurial ointment into the soles of the feet or the groins at stated intervals, until the stools manifest its therapeutical activity, *do an infant harm*. Let the child be but properly supported and kept warm during the administration and no ill effects can arise. **Chlorate of Potash** with small doses of **Ext. Cinchon. Fl.** are useful *adjuvants*, while this treatment is supplemented by the administration of **Pot. Iodide** in doses proportion to the age of the child and *later on* by the exhibition of **Ferri Iodide**. So I prefer **mercurial inunction** when possible to every method of administering mercury (either fumigation or subcutaneous injection) for its specific effects. *I prefer it particularly in syphilitic affections of the eye*, because it is comparatively rapid in its manifestation, because its effects can be so well regulated and controlled, and it is easy of application. The state of the *gums* should be attended to. Some are *affected as soon after a single application and even to a severe degree of salivation*. I think the familiar check of desiring the patient from the commencement to rub the gums *t. i. d.* with his handkerchief and on the least tenderness, to cease or modify the applications, *is a judicious one*. I think it advisable, when the least tenderness of the gums is detected, to advise a mouth wash of boracic acid with potassium chlorate, in eucalyptus water. Should the tenderness increase, besides the ordinary astringents of rhatany and myrrh in wash, a solution of **chromic acid** 5 to 10 grs. to the ounce, will be found an *advisable application*, touched to the sensitive parts with a camel hair pencil. (Vide pg. 10).

I now say a word for a *preparation of mercury* used by me for the last 15 years, which has never in my hands attended with unpleasant consequences, can be administered for a considerable time and produces no diarrhœa, is especially suitable in case of delicate women suffering from secondary eruptions and can be combined in pill with quinine and arsenic, viz., the **bicyanide of mercury**. Bicyanide requires to be carefully compounded and is best ordered in mass with bread crumb, a drop of mucilage and ext. of gentian. Such a pill containing 1/12 gr. of Bicyanide, 1 gr. of Quinine, (with or without 1/40 gr. of Arsenious Acid), is small and can be taken t. i. d. Nor does its exhibition interfere with the administration of *Pot. Iodide* or the combination of Iodides. I do not desire to detract from the therapeutical value of *bichloride salt* or *mercurial fumigation* in the treatment of syphilitic conditions, but I simply refer to bicyanide preparation as I find its activity and utility are not as generally known as they might be. The early symptoms of naso-pharyngeal troubles in respiration and phonation, the premature decay of teeth, especially the incisors and pre-molars, the various cutaneous indications in hands and feet, or the departures from the healthy standard in shape and consistency of the osseous system, cataractous degeneration in crystalline lens, are not infrequently precursors of graver syphilitic mischief in the eye. When the early proofs of syphilis have disappeared in the infant, these later reminders come with more or less severity and should indicate a close scrutiny into the previous history of the patient. In **interstitial Keratitis**, benefit follows from exhibition of **Iodides and Iodine**. After a mild mercurial course, *Syr. Ferri. Iodide* given in full doses (or *Syr. Acidi Hydriodici*, if Iodide be not well borne) has the best effect. Certain cases of **syphilis** in which Iodides have little effect, **Iodoform** given internally in doses of gr. 1 or grs. 1½ t. i. d. is effective. I continue its use, unless it is contra-indicated by fulness of head or headache. But also in *plastic iritis*, *sclero-choroiditis anterior*, *irido-cyclitis*, *sympathetic iritis*, *mercury* by inunction, or internally, pushed to the point of salivation, will frequently both arrest the disease and prevent these future exudative changes which result in either atropy, adhesion or glaucomatous obliterations of the filtrating structures.

The danger of a mydriatic, where there is tendency to serous effusion and injection of ciliary region, is considerable. It is disastrous in the later stages and when glaucomatous indications are present with iritic complications. But *Atropine is best in ordinary plastic iritis.*

Vide pg. 561-2, for the use and contraindications of **Eserine** in various affections of the eye.

* But when we require a myotic, and that either the Eserine fails in doing good or that the eye is intolerant of its use, we should substitute **pilocarpine** (the salicylate salt being perhaps the best). Frequently in deeper seated inflammations, I have seen pilocarpine succeed where eserine failed. The average strength of the preparation I employ is one to two per cent. Pilocarpine is very useful in *exudative conditions of the retina and choroid*. Subcutaneous injections in deep effusions in the eye, care being taken to exclude any cardiac or pulmonic complication, are beneficial.

For **alcoholic and tobacco amblyopia**, *Vide* page 814.

I cannot conclude these brief notes on ocular therapeutics, without, as a word of caution, stating my experience of the number of cases of **obscure head symptoms**, such as browache, headache, nausea, giddiness, confusion of objects at near work &c., have been the over looked cause of the symptoms, when a few minutes examination by ophthalmoscope or by an optician would have detected the defect and suggested the remedy. The precaution to remember the painful symptoms that sometimes accompany spasm of accommodation (especially in young persons) may save many a blunder (Dr. Macnaughton Jones).

DISEASES OF THE EYELIDS. BLEPHARITIS (TINEA TARSI).

F. at page 1098 ; Hydrastine 348 ; Pot. Chlorate 575 (9.) (d).

TRICHIASIS.

1. **Stellwag's operation.**—It is very similar to Arlé's and is performed as follows :—

* This is the continuation of the para (C.) at page 562.

(1.) The lid being everted, a single incision is made with a sharp knife from the external to the internal canthus, between the roots of the cilia and the meibomian ducts. The lid is thus split into an anterior and a posterior portion, and the dorsum of the lid and orbicularis muscles are separated from the lower half or two-thirds of the tarsal cartilage ; (2.) With sharp scissors a single clean, long, oval portion of skin is cut from the dorsum of the lid. The edges are united by sutures. This wound does not communicate with that on the conjunctival surface. In the vast majority of cases the result is excellent. Recurrence is rare, and even then does not take place for two or three years.

In travelling in different parts of the valley I have seen large numbers of people previously operated upon, and have been able to test the permanency of the cure. The operation can be modified slightly according to the position of greatest ciliary distortion. The instruments used are placed in 4 per cent. solution of carbolic acid prior to use. This year I saw a case in which ulceration of the cornea followed a trichiasis operation. Although by no means necessarily "*propter hoc*," still it accentuates the necessity for strict asepticism of hands and instruments—especially of the spatula placed behind the everted lid. I have also obtained good results from the grafting of buccal mucous membrane into an incision behind the cilia. In some cases I have grafted a portion snipped from the dorsum of the lid into the conjunctival wound. This has also given satisfactory results and is suitable for severe cases. But the Stellwag operation can be performed more quickly. It can indeed be done in less than three minutes. No anæsthetic is used. During the last 3 years alone, 1,058 patients have been operated upon, giving a total of probably 2,000 operations (Ernest F. Neve, M.D., F.R.S.E., M.R.C.S., Kashmir.)

2. Surgeon-Major Geoffry C. Hall recommends the following as a very good and simpler operation than those described above by Dr. Neve for the relief of Trichiasis :—

An incision is made from one angle of the lid to the other, cutting right through the lids, the two ends are left joined to the lid, but the entire piece containing the offending lashes is detached upto the

ends. A needle is then passed in from above, and the piece being twisted up, so that the hairs point upwards, is then sewn into this position. Very few cases are left uncured in this way. Simple excision of a portion of the upper lid and then bringing the edges together, will in some cases, suffice to raise the offending hairs.

LACHRYMAL AFFECTIONS.

Cocaine 186; Iodoform 387.

DISEASES OF THE CONJUNCTIVA.

OPHTHALMIA (CONJUNCTIVITIS).

1. A solution in common use for inflamed conjunctiva in the Manhattan Eye and Ear Infirmary, of New York, as an application to the eye, is the following. It originated with Dr. C. R. Agnew, and is applied as a spray by means of an atomizer :—

R Tannin grs. 10, Biborate of Soda grs. 20, Glycerine drs. 2,
Aquæ ozs. 2.

2. In mild cases of inflammation a solution of Boracic Acid in water (5 grs. to oz. 1), or if it is desired to use it stronger, a solution in glycerine, gives admirable results.

3. Acid Tannic grs. 10, Glycerine dr. 1, Aquæ ad. oz. 1. M.

4. Atropinæ Sulph. gr. $\frac{1}{2}$ to grs. 2, Zinci Sulph. grs. 2, Aquæ oz. 1. M. Useful in cases where iritis or corneitis occurs in the course of ophthalmia.

5. Alum (grs. 4 ad oz. 1.), Argent. Nitr. (gr. 1 ad oz. 1), Cadmium Sulph. 756, Cupri Sulph. (grs. 2 ad oz. 1), Cocaine 186, Ergot 245, Grindelia 310, Gum Rubrum 267 (7.), Hamamel. 321, Hazeline, Lapis Divinus 463, Leeching 1098, Plumbi Acet. (gr. 1 ad oz. 1), Resorcine 610.

CATARRHAL OPHTHALMIA.

1. Catarrhal Conjunctivitis or ordinary "cold" of the eyes with **simple cleanliness** is, in many instances, a self-limited disease. A cure can be hastened however, by local applications; and in the choice of these, preference should be given to the milder

forms of eye-washes, for they are in nine cases out of ten equally as efficacious as the stronger applications. They are not unpleasant to the eye, and can do no harm. If inflammation of the eye (conjunctiva) assumes an active type, there is apt to be hyperæmia of the iris, which readily passes into inflammation of that structure, under the influence of strong applications to the lid or globe; and the same may be said of the cornea—hence the safety of mild remedies, and the danger of strong ones. Either of the following prescriptions will meet the indications of a mild eye-wash :

- (1.) A solution of Common Salt (grs. 10 ad oz. 1). (2.) A saturated solution of Boracic Acid (grs. 15 ad oz. 1). (3.) R Sodii Biboratis grs. 80, Aquæ Camphoræ, Aquæ, â â. ozs. 2. M. (4.) R Zinci Sulph. gr. 1, Acidi Boracici dr. 1, Aquæ ozs. 4. M.

These may be freely applied to the eye, without fear of harm. As examples of what I consider the stronger eye-washes, I may cite solutions of copper, of zinc, of alum, of nitrate of silver, of acetate of lead, as strong as five or ten grains to the ounce. (Dr. James L. Minor). *Vide* Cold pg. 1099.

Chronic Catarrhal Ophthalmia.—Hydrastine 348.

CHRONIC OPHTHALMIA (CONJUNCTIVITIS).

Treatment is the same as that of catarrhal ophthalmia. Other remedies are as follows :—

Ergot 246, Eserine 561, Hamamelis 320, Iodol 395, Leeching 1098, Zinc Chloride (grs. 2 ad oz. 1).

PURULENT OPHTHAMIA (CONJUNCTIVITIS).

1. Sp. (a.) First *wash away all discharge and thoroughly cleanse the eyes* (*Vide* pg. 1097) with a 5 per cent. solution of **Boracic Acid**. (b.) Apply thoroughly to the whole conjunctival surface, and fill the conjunctival sac with an ointment composed of Hydrarg. Oxidi Flavæ grs. 16, Acid Boracici grs. 20, Cocainæ Hydroch. grs. 5 to 10, Vaselini oz. 1. ; and in some cases grs. 2 of Atropinæ Sulph. is also added.

The ointment may be applied with a camel hair brush or quill or any suitable thing and *no conjunctival surface should escape it.* (c.) Cover the eyes with a lint plentifully smeared with ointment and bandage them. Some pain is caused by the first application which can be prevented by using a 2 p. c. solution of **Cocaine** before making it. After the first application, the effect of the cocaine in the ointment keeps the eye numb from one application to the next, unless applications are made at very long intervals. The eye should be examined in about 2 hours. If there be discharge, the whole process must be repeated. If there is more, the bandage may be reapplied and left for another 2 hours. As a rule ointment requires to be applied every 4 hours for the first 2 days, less frequently afterwards, but the discharge must never be allowed to collect.

2. (Sp.) R Acid Boracic grs. 15, Aquæ oz. 1. M. Before using the medicine, the eye has to be bathed for 5 or 10 minutes, then the solution, about 2 to 3 drs., is allowed to run between the folds of the eyelids every half hour. Under this plan of treatment suppuration is not expected to continue ; it stops it almost at once, the tissues regain their normal appearance and colour again.

3. (Sp.) In milder cases, in which the **cornea is unaffected**, we should at once order a strong solution of **Nitrate of Silver** (one dr. to three of water) to be painted over the skin of the eyelids every 24 hours ; in the majority of cases, it will probably be unnecessary to apply the solution more than twice. Another, weaker solution (2 grs. to the ounce) may also be dropped into the eye every 2nd hour for 2 or 3 days, then every 6 hours, and subsequently twice a day. These drops should probably be continued for 8 or 10 days ; by that time the active symptoms of the disease will almost invariably have disappeared (provided the patient has come under our treatment at the commencement of the attack), and a solution of 2 grs. of Zinc Sulphate to 1 oz. of water, to be dropped into the eye 2 or 3 times a day, may be substituted for nitrate of silver lotion. In cases where **cornea** has become **implicated (ulcerated)**, a pencil composed of 1 part of **Argent. Nitr.** and 2 of **Pot. Nitr.** should be applied to the surface of the palpebral

conjunctiva and semilunar folds : there is no necessity for touching the orbital mucous membrane. As soon as the pus again appears after our first application, whether it be in 12, 24, or 36 hours, so soon must we re-apply caustic, but a somewhat weaker pencil (1 of Argent. Nitr. to 3 of Pot. Nitr.) will be sufficiently strong after the first application. It may be necessary to continue the treatment for 5 or 6 days, before inflammation will have overcome and purulent discharge cease ; but as a general rule, after each application of the caustic, the pus will take a longer time to form, and will ultimately disappear altogether (Dr. C. Macnamara).

4. Alum (grs. 10 ad oz. 1), Beta-naphthol 99, Cleanliness 1097, Cold 1099, Eserine 562, Grindelia 310, Hydrogen Peroxide 356, Iodol 395, Lapis Div. 463, Phenacetin 557, *Sanitas Fluid* 648, Trichlorophenol. *Vide* para last, pg. 1098.

OPHTHALMIA NEONATORUM.

Preventive Treatment.—*Vide* pg. 1097.

1. (Sp.) In inflammation of the conjunctiva in the **new-born** the *use of nitrate of silver is defunct*. In the treatment of these cases **cleanliness** is the main factor ; bland remedies such as the bichloride of mercury and boracic acid solution instilled every half hour with ablutions and removal of shreds of pus before each treatment is all that is necessary.

2. (Sp.) Dr. Fienzal **condemns the nitrate of silver** treatment on the ground of the *difficulty of applying the caustic to the real seat of the inflammation*, viz. the under surface of the eyelids and the *uselessness* of using it to the surface of the cornea only where the *chlorides of the lachrymal secretion decompose the silver salt* producing an insoluble chloride, absolutely inert. He **recommends** very frequent applications of antiseptic lotions of **Carbolic Acid, Thymol, Boracic Acid or Sodium Benzoate** with the most scrupulous **cleanliness**, rightly insisting on the injurious effects of prolonged contact of pus with the corneal conjunctiva. Dr. Golezowski says that though the *Nitrate of Silver* as usually employed might be *useless or worse*, the graver cases were best treated by the *judicious application of solid caustic to the palpebral conjunctiva &c. &c.*

3. (Sp.) R Solutio Hydrarg. Bichl. (1 in 500) oz. 1, Sodii Iodidi (1 in 4) mins. 15, Glycerini ad ozs. $1\frac{1}{2}$. M. To be applied with a camel hair pencil once a day to the everted lid. The same lotion with half the strength is dropped into eyes t. i. d. **Vaseline** is smeared to eyelashes to prevent sticking. In four days all discharge ceases and only **granular condition of lids** remain which is treated by sol. of bichloride (1 in 1000) with sulphate of zinc 2 grs. to an ounce. (The same treatment is for **Gonorrhœa**).

4. Beta-naphthol 100. Pulsatilla 502 ; *Vide* pg. 1097.

CROUPOUS AND DIPHTHERITIC OPHTHALMIA.

1. During the last 2 years about a dozen cases have been presented at Mr. *Tweedy's Clinique* which on casual inspection seemed to be ordinary purulent ophthalmia of infants but which on closer investigation proved to be allied to genuine diphtheritic ophthalmia.

A lotion containing 3 grs. of **Quiniæ Sulph.** to 1 oz. of distilled water and dissolved with a minimum of *Acid. Sulph. Dil.* was ordered to be used every hour as a wash for the conjunctival sac and to be *kept constantly applied as a compress to the lids*. In these cases *no effects were produced by Argent. Nitr. or other astringent solutions* and the cornea was saved by the persistent use of Quinine lotion.

2. In **croupous and diphtheritic conjunctivitis**, Eserine with cleanliness gives as good results as any treatment. *Caustics* are absolutely *contraindicated* since they would only cause a spread or involvement of new tissues, on account of their irritating properties.

3. Caustic is not, as a rule, to be employed *unless a purulent discharge exists*. When once a purulent discharge has commenced, and the conjunctiva become red and vascular, the local treatment must be altered, and conducted upon precisely the same principles as I have described for the treatment of purulent conjunctivitis, at para 3, pg. 1106.

4. Cleanliness 1097, Cold 1099, Fomentations 1099.

GRANULAR OPHTHALMIA (CONJUNCTIVITIS).

1. Arnauts has obtained excellent results in curing this troublesome disease by the applications of solutions of **Corrosive Sublimate** of strength somewhat greater than is used in this country. (England). He prescribes collyria of Corrosive Sublimate in the proportion of 1 to 500 and 1 to 400 and of this one or two drops are instilled into the eye two or three times daily. He admits that solutions having this strength excite some transient irritation of the conjunctiva ; but this disappears in the course of a few minutes and may be prevented by the antecedent instillation of a few drops of a solution of **Cocaine**. The remedy, he observes, costs little and admits of easy application and reabsorption of the granulations soon takes place. The effects of the solution are also well marked in causing the vascularisation of the cornea to disappear. The same plan of treatment can also be adopted in **ulcers of the cornea** many of which will rapidly heal under the influence of perchloride of mercury solution. Dr. Arnauts records several cases showing the advantages to be derived from its use.

2. **Boro-Tannin**, prepared by mixing together 2 parts of finely powdered Boracic Acid and one part of Tannic Acid, sprinkled on granulations after everting the lids, is effective in *acute granular conjunctivitis*.

3. (Ind.) The seeds of Cassia Absus (Guj.-Chimara) deprived of their testa and powdered, are sprinkled once daily over the granulations and a bandage applied ; after the application a watery discharge takes place from the eyes. If this treatment be adopted for 10 or 15 days the eyes are said to become completely clear from the existing granulations. This is a very effective Indian remedy.

4. Abrus Precatorius, Beta-naphthol 100, Cold 1099, Fomentations 1099, Hydrastin 348, Iodoform 388, Iodol 395. *Vide* pg. 1099.

PHLYCTENULAR, PUSTULAR, OR STRUMOUS OPHTHALMIA, SCROFULOUS OR PHLYCTENULAR CORNEITIS, &C.

1. (Sp.) Hydrarg. Oxid. Flavæ, in the shape of an ointment, properly prepared, has been used for 10 to 12 years at the

Medical College of Ohio, Eye and Ear Department, to the exclusion of all caustics and irritants ; grs. 10 to an ounce of Vaseline is generally used. There is only one *contraindication*, and that is in cases where there is *severe lachrymation*. The medicament being an oily substance the tears prevent it from entering the eye and it is washed out. In these cases a solution of **Bichloride of Mercury** may be employed (gr. 1 to ozs. 16) or what is *still better* a solution of **Eserine** (4 grs. to oz. 1) is used as preparatory to the ointment ; it has a tendency to stop the tearing at least for the time being, so that the ointment will take hold better. All of these remedies seem to act best when put into the eye but once during the day. *Eserine is the typical astringent*, a remedy that gives very satisfactory results in inflammatory conditions, since its effect is so powerful that the smaller vessels disappear in the course of 10 or 15 minutes after its application nor has it a secondary after effect of dilatation. It is an admirable remedy in phlyctenular conjunctivitis. There is another remedy quite valuable when properly employed, viz., **warm water**.

2. **Calcium Sulphide** administered internally will be practically serviceable in those cases of children which manifest **strumous habits**, with *enlarged cervical glands, swollen face, eyelids lightly closed, photophobia*, and where on opening the eyes a *gush of tears* is emitted and there are one or more *phlyctenules* on the cornea or it may be merely an increased *vascularity* of the cornea. These cases treated with **Calcium Sulphide** *internally* and locally **Atropine** and **warm fomentations** yield happy results. From 1/10 to $\frac{1}{4}$ gr. of *Calc. Sulphide* with *Saccharum Lactis* t. i. d. is sufficient. When iron, cod liver oil and other remedies have failed, the rapid recovery by sulphide of calcium is astonishing. (The above plan of treatment is also useful in **strumous Keratitis**).

3. (Sp) Phlyctenular corneitis owns a similar origin to that of the eczema or cold sore so often seen on or near the lips in evident intermittents and for it **Quinine*** is the grand remedy and more effective the **earlier** it is employed. The attending **photophobia** is charmingly controlled by washing the moistend outer surface of the

* A combination of Calc. Sulphide and Quinine will therefore give excellent results in scrofulous corneitis.

upper eyelid with a stick of **Argenti Nitras** till a good smarting is produced. *Vide Cocaine* pg. 187 (K).

4. (Sp.) R Hydrarg. Oxidi Rubri grs. 2, Bals. Peru mins. 10, Vaselini drs. 2. Very effective for phlyctenular conjunctivitis, superficial corneal opacity, &c.

5. Powdered **Sulphate of Soda** sprinkled over the pustules is also an effective remedy.

6. Cocaine 187, Eserine 561, Fomentations 1099, Iodoform 387, Iodol 395. *Vide* pg. 1098.

TRACHOMATOUS OPHTHALMIA.

1. **Boroglyceride** has been used in this form of conjunctivitis, and also in contagious ophthalmia of asylums, by Turnbull and Arlt, in all cases of a *chronic nature*.

2. Abrus Precatorius 3 ; Beta-naphthol 100.

FOLLICULAR OPHTHALMIA.

Cold 1099, Hydrastin 348 ; F. at pg. 1098.

GONORRHŒAL OPHTHALMIA.

Pulsatilla 582. *Vide* pg. 1099.

CHEMOSED CONJUNCTIVA.

Para last, pg. 1898 ; and also pg. 1099.

PTERYGIUM.

1. This was formerly treated by ligature and the results were satisfactory. But now excision is preferred. The overgrowth is thus at once disposed of. And the edges of the conjunctival wound can usually be accurately brought together by two or three sutures. Since excision has been practised, there has been a large increase in the number of patients. During the last 3 years 554 eyes have been operated upon for this disease. (Dr. Neve).

2. **A general fleshy vascular thickening of the conjunctiva** encroaching for half a line or so upon the corneal margin throughout its whole circumference is not uncommon in India. It appears to be *allied to pterygium and is quite distinct from pannus* (Dr. Neve). Excision in some cases is the only remedy, but less severe cases can be cured by the use of a mildly astringent ointment, such as Ung. Hydr. Oxid. Flav. $\frac{1}{6}$ th with 5 grs. of Alum added to the ounce, rubbed in gently (Surg. Major G. C. Hall.)

DISEASES OF THE CORNEA.

OPACITIES OF THE CORNEA.

1. **Pannus.**—Surg. Major G. C. Hall has cured some very severe cases by the use of an application of a strong mercurial and alum ointment, aided by a pad and bandage, applied for some three weeks or so. The ointment is put in twice daily, and is composed of

Ung. Hydr. Oxid. Flav. dr. 1, Alum grs. 10, Vaseline oz. 1.

The strength depends of course upon the condition. In one very bad case of fleshy pannus the cornea was completely cleared by applying solid argenti nitras, washed off with salt and water: this was tried after peritomy had failed to benefit in any way. These applications will repay trial.

2. Other remedies for **pannus and other forms of corneal opacities** are: F. 4, page 1111; Abrus Prec. 3; Cadmium Sulphate 756; Iodoform 387; Pot. Iodide (24 grs. ad oz. 1 of water).

KERATITIS (CORNEITIS.)

The different varieties of Keratitis have already been described at page 1041. Other remedies in addition are:—Calcium Sulphide 133, Cocaine 187, Eserine 561, Scopolene 653.

HYPOPYON, &C.

1. In hypopyon and septic ulceration of the cornea, the operation associated with the name of Saemisch (*viz.*, the cutting across of the purulent infiltration throughout its whole breadth from within outwards)

has been found by Dr. Neve of the greatest value. Only one case of 25 remained unbenefited, and the relief is usually immediate.

2. Eserine 561 and 562.

CORNEAL ULCERS.

1. **Pyoktanin**, according to M. Galezowskey, gives remarkable results in the treatment of various forms of ocular ulceration. Chronic corneal ulcers especially, which prove rebellious to all other treatment, are quickly arrested in their spreading course and cured in about four weeks by the regular application of a solution freely applied.

2. Atropine, Cadmium Sulph. 756, Cocaine 186, Cold 1099, Eserine 561 and 562, Fomentations 1099, Iodoform 387, Iodol 395, Phenacetin 557, Scopolene 653.

WOUNDS AND INJURIES OF THE CORNEA.

Cocaine 186, Eserine 561 and 562, Iodoform 387, Jamaica Dogwood 421, Leeching 1099.

IRIDECTOMY.

Cocaine 186 ; Phenacetin 557.

SYMPATHETIC IRIDO-CYCLITIS OR SYMPATHETIC OPHTHALMIA.

Atropine, Eserine 561 and 562, Iodoform 1099, Jamaica Dogwood 420-1, Tonga 712.

SCLERITIS AND EPISCLERITIS.

Colchicine 210 ; Eserine 562, Leeching, 1098.

CATARACT.

1. The antiseptic precautions adopted for the operation are to place all instruments in 4 per cent. **carbolic lotion** and subsequently in saturated solution of **boracic acid**. **Atropine and cocaine** drops are made by dissolving the alkaloid in boracic lotion. Every two or three months all instruments are rapidly passed through the flame of

a spirit lamp. The patient's face and eyelids and conjunctival sacs are carefully cleansed with 1 to 3,000 **perchloride of mercury lotion**. The operator's hands are rendered aseptic. **Sal alembroth wool** is used as a dressing. (Dr. Neve).

The most successful operation is one in which the lens is extracted in its capsule ; this combined with an iridectomy makes a lovely eye. Apply first a mixture of atropine and cocaine. When the pupil is well dilated, perform Von Graefe's operation as far as the pricking of the capsule and merely press out the lens gently. In a great many cases it comes out with no difficulty, capsule and all, complete. There are several advantages in this operation, one, and not the least being the absence of all capsule and soft matter : for lymph exuded from the cut iris to cling to lymph is the bugbear of all eye operations. (Surg. Major G. C. Hall).

In cataract cases in which suppuration is apprehended, it is a safe precaution to perform an iridectomy a fortnight previous to the operation. One only objection is that in some cases the patient's vision is so far improved that he leaves hospital before the second operation. (Dr. Neve).

2. Cineraria Maritima 171, Cocaine 186, Eserine 562, Phenacetine 557.

OCULAR NEURALGIA.

Antipyrin 58, Eserine 562, Jamaica Dogwood 421, Phenacetin, Sod. Sylicyl. 18, Tonga 712.

PHOTOPHOBIA.

1. **Anæsthesia of the Gasserian Ganglion to relieve obstinate photophobia.**—The very common symptom of sneezing, which occurs in patients suffering from acute keratitis when the lids are opened and the light falls upon the cornea, is said by Gutierrez-Ponce, to be relieved by the instillation of a few drops of **chloloform into the auditory meatus**. This produces anæsthesia of the Gasserian ganglion. After a few minutes the eye can be opened and thoroughly examined without exciting sneezing or the other symptoms of photophobia.

2. Cocaine 187 ; Tonga 712.

ASTHENOPIA.

Tonga 711.

PRESBYOPIA.

Eserine 562.

ORCHITIS AND EPIDIDYMITIS.

1. (Sp.) Dr. Macnaughton Jone's plan :—**Nitrate of Silver** solution (dr. 1 ad oz. 1) is applied at night to the affected testicle with a camel hair pencil, the part having been previously *shaved*. Over this application a **linseed meal poultice** is placed, in which the testicle is suspended by a triangularly folded pocket handkerchief. The next morning the **pigment of Iodine** (Iodine grs. 30, Mastiche grs. 30, Sp. Rect. drs. 2, Collodion Flexile drs. 2) is painted, taking the shape of *Scarpa's space* for the extent of some 6 to 8 inches in the course of femoral vessels. The Nitrate of Silver vesicates the scrotum. The poultice is continued for from 24 to 48 hours, when it is **replaced by simple dressing and a suspensory bandage**. In a few days the **testicle**, now reduced in size and no longer sensitive, is **strapped**. Salines are given at first and afterwards **Pot. Iodide**.

2. (Sp.) Apply with brush once a day for two successive days a mixture of

Argenti Nitr. parts 4, Sp, Ether. Nitr. parts 30 ;
then moisten a piece of lint in a mixture of

30 parts of Laudanum, 30 of Liq. Plumbi Sub., to 440 of water,
and put on the testicle and keep it wet ; apply a **suspensory bandage**. This gives prompt relief in **gonorrhœal epididymitis**. Here *ether* contained in the solution *dissolves the oil in the natural secretions* and therefore wets the parts *more effectively* than the water.

3. (Sp.) 269 cases of **acute orchitis and epididymitis** as a result of **acute gonorrhœa** have been satisfactorily and successfully treated for the last many years by painting the affected testicle by solution of

Nitrate of Silver drs. 2 to Water oz. 1,
enforcing strict rest in bed and supporting inflamed organ on a small

pillow. The immediate effect of silver nitrate in allaying the pain are most marked.

4. For several years past Dr. O'. Daniel has adopted the following mode of treatment :—

If there is much inflammation and swelling of affected parts, he usually has the *patient stand on his feet*, which increases already the turgescient condition of scrotal veins, when **punctures** them and thereby relieving the abnormal congestion by free escape of blood from the distended veins. After which he advises the *patient to remain in bed*, and take from 4 to 6 drops of **Ext. Phytolacca Dec. Fl.** every 3 or 4 hours until the specific effect of drug is at least partially developed. He then lessens dose or lengthens interval according to circumstances. This with an ointment of Ext. Belladonnæ grs. 30, Ext. Phytolaccæ, grs. 30, Lanolini drs. 2, applied to the swollen and inflamed parts with an *anodyne*, if necessary to relieve pain and promote rest and a well fitted *suspensory bandage* after convalescence, constitutes a most satisfactory treatment.

5. (Sp.) A tampon of cotton wool made cold by projecting on it a jet of **Methyl Chloride** according to Dr. Boily's method (*stypage*), is applied for some seconds to the scrotum on the affected side ; as a result of this the dartos contracts energetically and the skin turns cold and pale. The application must not be continued too long, or erythema, or vesication or sphacelus may follow. In ordinary cases the application may be repeated every morning, but in severe cases, morning and evening. No further treatment either external or internal is necessary. The total duration of treatment is on average a week.

6. (Sp.) R Ammon. Chloridi drs. 2, Acid Acetic Dil., Sp. Rect., â â. oz. 1, Aquæ ad 0. 1. M. ft. lotio. For **acute orchitis**.

7. (Sp.) R Plumbi Iodidi 5, Pot. Iodidi 2, Ext. Bellad. 2, Ext. Opii $\frac{1}{2}$, Adepis 45, parts. M. ft. Ung. A resolvent in orchitis, epididymitis, furunculitis and puerethral engorgement. (Dr. Mallez).

8. R Bismuth Subnitr., Aquæ, â â. partes equales. M. Paint the scrotum 2 or 3 times a day and repaint at intervals several times a day in **acute epididymitis**.

9. (Sp.) R Vin. Antimony. mins. 15, Magn. Sulph. drs. 2, Tr. Hyosc. mins. 30, Aquæ ad oz. 1. M. Very efficacious for **Acute Orchitis**.
10. (Sp.) R Liq. Hydrarg. Perchl. mins. 30, Pot. Iodidi grs. 3 to 5, Inf. Cinchon. oz. 1. M. For **subacute orchitis** to promote absorption. *Locally strap the testicle or apply Tr. Iodine or Camphorated Mercurial Ointment.*
11. Antipyrin, Collodion. (B.) P. 212, Iodoform 390, Kaolin 433, Phytolacca 565, Pulsatilla 582, Resorcine 611, Sodii Salicyl. 18.

OTOLOGY.

OTALGIA (EARACHE).

1. (Sp.) Few drops of a solution of Atropine (4 grs. to oz. 1 of water) poured into the ear and allowed to remain in the meatus for at least ten minutes is very effective for severe earache. For children a solution of 1 gr. to an ounce will suffice.

2. (Ind.) Boil powdered Garlic with the juice of the leaves of Ocymum Basil. or Ol. Amygd. and let cool. A few drops of the oil thus prepared to be dropped into the ear.

3. F. 10, 11, 12, 13, **Otorrhœa**.

4. *Alium Cepa* (juice), Cocaine 187 (2), Jamaica Dogwood 421 (10), *Lavandula*, Menthol 491, Morphia, Opium, Sodium Chloride 661.

OTITIS AND OTORRHŒA.

1. **Boracic Acid** has given complete satisfaction in the treatment of **chronic suppuration of the middle ear**. It may be employed in the form of a **solution** (alcoholic and watery), or the **impalpable powder** in its pure state, according to the indications of the case. It is the *best remedy* that we possess *not only in simple cases* but also in cases where the *middle ear* is filled with a **furuncular** mass of tissue. *Boracic Acid* causes these *granulations to shrink and disappear*, it restores the mucous membrane to a normal condition after which the perforation in the tympanum can close up. *Simple acute cases* are often cured by *thorough cleansing* of the parts by means of absorbent cotton wrapped on a

probe. The syringe should never be used for the purpose of removing the pus from the middle ear ; neither should a patient be entrusted with the important duty of cleansing the ear. Every suppurative process is dependent on the formation of bacteria which may continue so long as there is any moisture in the tympanic cavity ; absolute dryness is the ideal of a germicide. The *injection of water for the removal of pus* cannot be recommended, since the anatomical condition with the pathological state is such as to retain some moisture, thereby forming a nidus, almost a culture material for the propagation of the micro-organism and the continuation of the formation of pus. When **absorbent cotton** is used **on a probe**, the parts can be cleansed more rapidly and at the same time left in a dry condition. If the perforation through the membrana tympani is small, so as not to admit a pledget of cotton through the opening, the pus may be blown out by inflating the air by Politzer's air bag. This portion of the treatment though seemingly insignificant should never be omitted, for the most scrupulous cleanliness is an important factor in these cases. Many specialists now simply blow a little of the **Boracic Acid powder** into the ear, but I would suggest to fill the meatus completely packing it solidly against the diseased structures ; thus applied it not only acts as a disinfectant but it has the property of *absorbing moisture and keeping the diseased structures in a dry condition practically*, for some time ; another indication is in the fact that *Boracic Acid is only efficacious when in absolute contact with the diseased structures* ; when a portion is dissolved there is always some more in the meatus to supply the want or demand. If in a given case the *powder is not at all dissolved*, but hardens in the meatus, it need cause *no alarm* ; it can remain there until it gradually crumbles away ; if the powder remains dry, there is no pus underneath it.

So in simple cases of otorrhœa, provided the discharge be slight, boric acid in fine powder employed in the manner above stated, is quite sufficient. But in **acute cases of otitis media suppurativa**, solution of Boric Acid grs. 15 to an ounce of water should be used in preference to the dry powder ; because it does not obstruct the free escape of discharge from the middle ear and also it expedites the healing of the perforation of the drum head.

In a case of otorrhoea of 7 years' standing, a saturated solution of **Boracic Acid in Alcohol** had a better effect since it carried the acid to the seat of the disease.

In **chronic obstinate cases** where **Boric Acid** alone fails, **Resorcine** combined with it as described at page 609 (q. v.), acts as a specific.

2. (Sp.) Dr. Cleary for many years past has confined himself to one of the three methods of treatment for **chronic suppuration of the middle ear**, viz., (1) the acid treatment; (2) the alcoholic treatment; (3) the nitrate of silver treatment.

(a.) **The Acid treatment** he finds peculiarly useful in those cases where **caries or necrosis** of the temporal bone is present. *Mineral acids* extract the earthy substances from dead bone and in those cases of purulent otitis accompanied by diseased bone, the acid decalcifies the diseased tissue, and so renders it absorbable. The best acids for this purpose are *Nitric* and *Hydrochloric* and they should be used in the form 2 to 4 per cent. solutions.

(b.) **The alcoholic treatment** is especially valuable in those cases accompanied by **polypoid growths and granulations**. The alcohol abstracts the watery constituents of the growths and coagulates the albumen.

(c.) **Nitrate of Silver** acts as a powerful astringent, is a moderate escharotic, and a most potent antiseptic. Solutions of a strength of from 2 to 4 per cent. have, as a rule, succeeded in the author's hands. At times, however much stronger solutions have to be applied. This remedy *should not be entrusted to the patient*, but should be applied by the surgeon.

3. Dr. Stein has made an extended trial of **Resorcine** in the treatment of diseases of the ear, owing to its possessing *slight astringent and caustic properties, well tolerated by the mucous membrane of the tympanic cavity*. He has at the same time found it to possess the property of *favouring epithelial regeneration* without at the same time causing any maceration of the tissues. The action of the drug, however, appears to be very *superficial*, Cocaine, on the other hand, favours the re-absorption of pathological exudations.

The author accordingly uses a solution containing 1 per cent. of **Resorcine** and $2\frac{1}{2}$ p. ç. **Cocaine**, to which may be added, if there is severe pain, a small quantity of **Morphia**. A small quantity of this solution is poured into the meatus, and is allowed to remain *in situ* for five minutes. This solution has produced the *best effects* in those cases where the **drum is intact**, where **foreign bodies** have been removed from the meatus, in **meningitis**, in **otitis media with hemorrhage**, in **chronic catarrh of the middle ear with hyperæmia**; *in this last case injections are made into the middle ear through the Eustachian catheter*. This application is also useful in **purulent disease of the middle ear**. It *must not*, however, be employed in those cases where *diminution of the suppuration* produced by the action of the medicinal agent *brings about impaired hearing power*. Its principal use is in those cases which are accompanied by **hyperæmia**.

4. (Sp.) **A Fluid Tympanum, a Cure for Chronic Otorrhœa**.—The well known fact that many patients with perforation of the Tympanum hear better immediately after the injection of some liquid into the ear, induced the author to replace the solid Tympanum with one of fluid. He dropped single drops of **Glycerine** into the ear until, by trials, he was convinced that the hearing could be improved no further, then added a few drops of **Collodion** and directed the patient to hold the diseased ear in such a position that the fluid would remain intact for 15 minutes. (?)

Michael, in chronic suppuration of the ear employs, instead of pure glycerine, **Alum or Tannin in combination with Glycerine** and then fills the same by the addition of few drops of **Collodion**. He has succeeded in this way in curing many *old cases of obstinate otorrhœa, having existed years*.

5. Dr. Cheltsoff strongly recommends the employment of a solution of **Styrone** in chronic inflammation of the middle ear. He orders a solution of the strength of about a drachm to four ounces of spirit, of which from two to four teaspoonfuls are directed to be mixed with a tumbler of warm water for each syringing; the operation should be repeated two or three times a day. Styrone being both strongly disinfectant and deodorant as well as somewhat analgesic, the secretion

soon diminishes and becomes less unpleasant, besides which, the pain, if present, is ameliorated. No irritation is produced as when many other substances are used in sufficiently strong solutions to destroy the micro-organisms present in the secretion.

5. R Thymol P_v. grs. 5, Acid Boracic P_v. grs. 50. M. A little of this blown into the ear neutralizes the foetid odour and discharge of **otitis media**.
6. Warm solution of Fluosilicate of Sodium (2 in 1000) instilled into the ear 3 to 6 times daily is beneficial in otorrhœa.
7. R Hydrarg. Perchl. gr. $\frac{1}{2}$, Acid Tartaric grs. 20, Aquæ ad ozs. 6. M. To be poured into the ear until the ear is full. Here acid contained in the solution prevents the precipitation of the albumen from secretion of ear.
8. R Acid Carbol. dr. 1, Glycerini oz. 1, Aquæ Distil. ozs. 5, M. Apply with a syringe 3 or 4 times daily; destroys unpleasant fetor and usually effects, a complete cure. (Dr. J. P. Pennefather).
9. Acid Salicyl. 4, A. Tannic 6, Bismuth Subnitr. 90, parts. M.
10. R Calcis Sulph. (Alabaster), Alumen, Bole Armeniac, â â. equal parts. M. ft. pulv. A little to be blown into the ear. In case of inflammation round the ear, make a paste with water and apply outside the ear.
11. (Ind.) Juice of the fresh leaves of Cleome Viscosa (Guj.—Kánaphuti, Tilavana, &c.; Eng.—Dog mustard) dropped into the ear is useful in cases of otorrhœa with pain and deafness.
12. (Ind.) R Cuttle-fish bone (Guj.—Samudra phina), Garlic, Rue, Ptychotis Ajowan, Camphoræ, â á grs. 90, Opii grs. 45. Powder all except the camphor, boil them in sweet oil and then dissolve camphor in the mixture, and filter. Put a few drops into the ear for otorrhœa and otalgia.
13. (Ind.) Egg Oil dropped into the ear is effective for otorrhœa with pain and swelling of the surrounding parts. The oil can easily be obtained by digesting an hen's egg in alcohol for 7 days and preserving the oil which floats on the surface.

14. (Ind.) R Anthem. flor., Rosæ Petalæ, â â. dr. $\frac{1}{2}$, Ol. Sessam. Orient. oz. 1. M. Keep for few days, press and filter. A few drops put into the ear in otorrhœa and earache.

15. Acid Carbolic, *Beta-naphthol*, Brucine 119, (2), *Hydrastin* 349, Hydrogen Peroxide, *Iodoform*, *Iodol* 396, Papain 543, Pot. Chlorate 574, Pot. Permang. 552, Resorcine 609, Naphthalin, Salol 633, Sanitas Oil 643, and 648.

FURUNCULOSIS OF THE EAR.

1. Supersaturated solution of Boric Acid in Alcohol is very effective in aborting the furunculosis of the ear at its commencement and also in preventing its recurrence.

2. Brucine 119 (1); Menthol 491. *Vide* pg. 1117.

WAXY CONCRETIONS IN THE EAR.

1. R Acid Boracic grs. 55, Glycerine, Aquæ, â â. ozs. $1\frac{1}{2}$. M. This should be warmed and instilled into the ear, allowing it to remain for 15 minutes and repeating for a day or two. An antiseptic mixture for soft and waxy concretions in the ear.

2. Papain 543.

TINNITUS AURIUM.

Actæa Rac., Antipyrin, Bromides 111, Ergot.

OVARIAN DISEASES.

OVARITIS.

1. In acute ovaritis, complete rest in bed is needed. Depletion is seldom necessary, unless the attack has been connected with the sudden suppression of menses. But in such cases, the application of 4 or 6 leeches to the lips of the uterus often gives marked relief. Hot hip baths, repeated night and morning for 20 or 30 minutes at a time, are always serviceable; their employment should be followed by the introduction of the following pessary into the vagina :—

R Plumbi Iodidi grs. 80, Ext. Bellad. grs.
24 to 40, Ext. Conii grs. 100, Ol. Theobromæ oz. 1-1½, Ol. Olivæ fl. drs. 2.

Mix ; melt into a mass with gentle heat and divide into 8 pessaries. Introduce one into the vagina every night, or every other night. Besides ovaritis, it is also useful in chronic inflammation and induration of labia uteri, pelvic cellulitis and chronic cystitis.

If it be thought desirable to administer mercury, this agent may be advantageously mixed with the pessary ; but care should be taken not to produce salivation. As a rule a mixture containing full doses of **Pot. Iodide and Pot. Chlorate** will be found much more efficient than any of the mercurial preparations. **Fomentations** to the lower part of the abdomen, or hot linseed **poultices** applied over the vulva and hypogastric and inguinal regions are serviceable. Where these measures fail to relieve the pain, **Opium** should be given.

In **chronic ovaritis**, as the sufferers for the most part are delicate women, the plan of treatment, which tends to improve the general health, will be successful. Hence warm clothing, nourishing diet, gentle exercise in the open air, cod liver oil, &c. are beneficial. **Warm hip baths**, once or twice a week, are also useful. With regard to drugs, great reliance is placed in the **Pot. Chlorate**, which should be ordered in 20 gr. doses 3 or 4 times a day. Where this fails, success often follows from the use of **Pot. Iodide** with some bitter infusion. Where there is much pain **Tr. Aconite** mins. 5 or 10 should be added to each dose. And then locally no agent will be so useful as the above described **pessary**. When the sacral pain continues in spite of the use of these pessaries, a **belladonna plaster** ought to be applied (Dr. Tanner).

2. Ferri Bromide 114, Gelsemium 300, Hydrastis 343, Ichthyol 370, Pulsatilla.

OVARIAN HERNIÆ.

The sudden occurrence of the tumour, its physical character, the peculiar dull sickening pain, and the extreme tenderness and

nausea manifest on examination are sufficient to enable a correct diagnosis to be made by any competent gynæcologist.

Where the ovarian hernia takes place through either of the abdominal rings or downwards into Douglas' space, it may in some instances be reduced, as any other herniæ similar situated. In the majority of cases, however, such herniæ are irreducible when discovered, and must either be supported in the former cases by applying a hollow truss whilst in the latter case the prolapsed ovary must be replaced if possible and kept in position with a peculiar form of pessary, especially devised by the author for the purpose, or failing this, if the symptoms be urgent the ovary must in some exceptional cases be removed (T. M. Madden, M.D., F.R.C.S.).

OVARIAN HYPERÆMIA.

Pot. Bromide 806 ; Salix Nigra 627.

OVARIAN HYPERÆSTHESIA.

Cannabis 137 ; Salix Nigra 627.

OVARIAN IRRITABILITY.

Liquor Sedans 729 ; Salix Nigra 728 ; Zinc Bromide 746.

OVARIAN NEURALGIAS.

1. A young lady of highly nervous organization, though otherwise in good physical condition, sent for me to relieve her of an excruciating attack of ovarian neuralgia to which she was subject, and which generally lasted for a number of days. She had been suffering for some hours before I could see her, trying many external remedies with no result whatever. It was nine o'clock at night and she in bed. I told the attendants to remove all outward applications, for I would give her relief without any medicine, and that speedily. Then I proceeded to **hypnotise** her, placing my hand on the painful region. In two minutes she was asleep, and did not wake up till five o'clock the following morning, as I was told on my next day's visit. No return of the pain took place. (H. E. Schmid, M.D.)

2. Bromides, Gelsemium, Jamaica Dogwood 422, Liq. Opii Sed., Liq. Sedans 729, Salix Nigra 627, Viburn. Prun. 728.

TORPOR OF THE OVARIES.

Auri Chloridum 77; Phosphorus; Saw Palmetto. *Vide Sterility.*

OXALURIA.

1. If it arises from *ingestion of articles of food*, *discontinue* such food (*Vide dietary*). If indirectly from food owing to *incomplete oxidation of Saccharine, oleaginous and albuminous principles*, then regulate diet as regards quality and quantity and promote oxidising process within the body by means of **iron, change of air, seabathing, &c.** Where it arises from *increased tissue metabolism* as evidenced by an increase of urea and phosphoric acid excreted, inquiry should be made into nature of conditions producing such disturbance. In case of *calculous deposits of oxalate of lime*, local treatment to be applied to parts &c.

Lastly for **oxaluria**, Carlsbad Salts *largely diluted*, a teaspoonful in 10 or 15 ozs. of hot water, as hot as patient can bear, to be taken every other morning an hour before breakfast, and 30 grs. of **bismuth subnitr.** once or twice a day before meals. In long standing cases with nervous depression give Nux Vom. and Nitro-Mur. Acid 2 or 3 hours after food. Remove him to a dry soil.

2. F. 7, pg. 917; F. 4, 5, pg. 997. *Vide Lithonlytics.*

Dietary.—Oxalic acid gravel or poor man's gravel is *due to exclusive vegetable diet*. **Prohibit** foods which contain large quantities of oxalic acid. Following substances contain oxalic acid:—

Black tea, cocoa, chocolote, pepper-chicory, coffee, chervil, parsley. White beans, garden beans, celery, radishes, potatoes. Bread of good quality, crust, crumb, block wheat flour, barley, Indian corn, wheat bran. Sorrel, spinach, garden rhubarb, brussels, cabbage, white cabbage, beet, green beans, salsify, tomatoes, carrots, celery stalks. Chicory, endives, escords, corn salad. Dried figs, currants, plums, gooseberries, prunes, raspberries, oranges, lemons, cherries, strawberries.

Hence coffee, tea, chocolate and bran should be forbidden in oxaluria.

OZÆNA.

1. (Sp.) Apply daily, by means of a brush, to the nasal mucous membrane, at the entrance of the nasal cavity, **Balsam of Peru**, and also put in the deep part a tampon of cotton soaked in the balsam. It has proved to be an *excellent disinfectant* in a series of cases of ozæna which had resisted the usual deodorizing remedies.

2. (Sp.) Lennox Bronne directs, for the removal of the nasal incrustation of persons affected with ozæna, to syringe out the nostrils several times daily with a luke-warm emollient solution, or a weak solution of **Sodium Salicylate**; afterwards he applies the following by means of a brush. The nasal passages should be kept constantly clear and open, and should not be stopped with a tampon.

R Iodoform grs. 5, Æther mins. 12, Ol. Sanitas mins. 5, Vaseline oz. 1. M.

3. (Sp.) R Sodii Biborat., Bism. Subnitr. â â. dr. 1, Quin. Sulph. grs. 10, Iodoform grs. 5. M. Should be used as a snuff in ozæna in which case it stops the fœtor and greatly diminishes the discharge from the nostrils. The nostrils to be washed off with **borax lotion**.

4. (Sp.) When ozæna is of simple kind, not due to caries or necrosis of bone but to a sluggish inflammatory action in a **scrofulous subject** then considerable benefit is derived by administering internally $\frac{1}{2}$ gr. of **Calcium Sulphide** t. i. d. Cleanse the nasal and pharyngeal cavity with a brush dipped in **Glyc. Acidi Tannici** through the anterior nares and also behind the soft palate. And after the cavities have been cleansed, a little dry Iodoform may be passed into cavities at the tip of the brush.

5. (Sp.) W. Pugin Thornton strongly recommends the following liquid to be applied to the nasal passages by means of a spray :—

R Sodii Carbonatis, Sodii Boratis, â â. oz. 1, Liq. Sodæ Chlorinatæ, Glycerini, â â. fl. oz. $\frac{1}{2}$. M.

6. (Sp.) R Sol. Zinci Chloridi (5 p. c.) oz. 1, Acid Boracici grs. 14, Aquæ ozs. 28, Ammonię q. s. to neutralize the fluid. A

little of this solution is snuffed up the nostrils several times a day.

7. (Sp.) Strong solution of **Boracic Acid** employed in the same way as the above is useful.

8. (Sp.) A case of **chronic ozæna**, in which almost every known remedy had been used and a small fortune spent in treatment, which included a visit to Royat for the douches, &c., and without avail, was most wonderfully improved in a short time by douches at home of * **colourless Carbolate of Iodine**. (Percy Boulton).

9. R Ferri Hypophos. grs. 3, Quin. Sulph. gr. 1, Ext. Nuc. Vom. gr. $\frac{1}{3}$. M. ft. pil. one t. i. d.

10. R Quin. Arsen. gr. $\frac{1}{8}$, Ferri Redact. grs. 3. M. ft. pil. One after meals.

11. Other remedies used as inhalations, gargles, iusufflations, injections or douches into the nose are :—Aceto-Tartrate of Alumin, 5, *Aristol* 754, *Eucalyptine* 260, *Hamamel.* 321, *Hazeline* 322, *Helenin* 325, *Hydrogen Peroxide* 355, *Pot. Chlorate* 574, *Pot. Permang.* (1 or 2 grs. ad oz. 1), *Pot. Sozoiodol* 671, *Salol* 633, *Sanitas Fluid* 648, *Sanitas Oil* 643, *Saw Palmetto*, *Sod. Chloride* (a saturated solution forced up the nostrils), *Thymol* 710, *Zinc Sozoiodol* 671, *Zinc Sulpho-Carbol.* (grs. 2 ad oz. 1.) *Vide F. 1, pg. 994.*

PAEDIATRICS.

ASPHYXIA NEONATORUM.

The indications for treatment in all cases of stillbirths are to clear out the air-passages, restore the irritability of the medulla, increase the force of the heart contractions, relieve the plethora of the heart and blood-channels, and expand the thorax. Where muscular tonicity is yet present these conditions are easily fulfilled. But *long-continued and careful resort to the methods of resuscitating are called for in the more advanced cases.*

1. The cord should be tied immediately. The mucus should be cleared out of the mouth by the fingers, and the mucus may be sucked

* Iodine rendered colourless by the addition of Carbolic Acid. *Vide Lancet* July 27th, 1867.

out of the air passages by a catheter passed down into the trachea. Various kinds of *stimuli* should be resorted to in order to induce respiratory movements, such as sharply flicking the chest with a wet towel, application of heat and cold alternately to the skin by dipping the child first into hot and then into cold water. If the above means fail, **Artificial Respiration** must be performed by the methods described below. As long as the heart-beats are perceptible there is hope for recovery and artificial respiration should be persevered with, till the natural respiratory movements commence, or till the heart has ceased acting. *Where there is deep asphyxia, all movements to restore the child should involve a minimum degree of disturbance ; otherwise the heart will cease to act, and all signs of life become extinct.* This is known to occur in several cases. But there is no danger involved in **aspirating the lungs through a hard rubber tube.** Before describing these methods of artificial respiration I recommend the following plan which is considered very effective and rational :—

2. That anæmia of the brain is in nearly all cases the cause of asphyxia neonatorum, and that, therefore, **inversion of the child**, by which means the *blood therefore aggravates to the brain*, will in many cases serve to restore children to life which are apparently dead and in which artificial respiration will usually fail. Therefore, **inversion of the child**, or in other words, **placing head lower than the body**, is recommended. The advantages claimed for it are :—

(1.) *It enables one to employ any other method in connection with it.* (2.) *It is totally void of violence.* (3.) *Violent and prolonged artificial respiration works much detriment and may even fan out the last sparks of life.* (4.) *It induces the escape of such fluids as may be in the air passages.* (5.) *Where there is a circulation of blood through the Foramen Ovale, it substitutes purer blood of Vena Cava Ascendens for the venous blood of V. C. Descendens.* (6.) *It gravitates blood to the lungs, which there distending the blood vessels causes additional stimulus to respiration.*

Schultze's Method.—With the infant's back towards the operator, the operator places his thumbs upon the head, the index-

fingers in the arm-pits, the hands diagonally across the back, the child's body hanging. Thus pulling up on the thoracic muscles, the upper ribs are drawn upward, while the attachments of the abdominal muscles draw the lower ribs downward, the diaphragm descends, and in this way the cavity of the chest is expanded to the greatest degree, and inspiration is favored. Then, by extending the hands horizontally and giving a light turn forward and upward, bending the child forward, the abdominal viscera push up the diaphragm, the ribs are brought in close contact with one another, and the most efficient form of expiration is produced. There is, perhaps, no other way in which the mucosities in the lungs can be so efficiently expelled. In order to completely ventilate the lungs, the child is swung over between the hands a few turns before being laid away. But the greatest advantage is derived from the manner in which the congested heart-cavities and vessels of the thorax are unloaded by these movements. This method is regarded as more effective than Marshall Hall's or Sylvester's. Dr. Neale relates a case in which resuscitation was secured after ten minutes, the measures mentioned and all others having been tried in vain.

3. Sylvester's Method.—It is performed by placing the child in a sitting posture, and alternately lifting it up by its two arms and setting it down again, drawing down the arms and pressing them against the sides of the body; this method is repeated about 30 times a minute.

Dr. S. Nall directs to place the child on its back with its head and shoulders elevated; elbows are next raised above the head in order to dilate the chest; they are then depressed against the chest wall (the ribs being compressed at the same time) so as to empty the chest; this movement is performed every 10 seconds.

4. Marshall Hall's Method.—The child is laid on its abdomen, the arms are placed under the chin, the face is held up so that air may enter freely by the mouth and nostrils. The child is then rolled alternately on to its side and stomach about 30 times a minute, gentle pressure being made to facilitate expiration when the child is laid on its abdomen, while inspiration takes place when in the lateral position.

5. **Another Method.**—A catheter is guided into the trachea past the epiglottis, and the lungs are inflated through it; after being inflated, the chest is compressed by the hands, and the air expelled (Dr. S. Nall.)

6. *Æther* pg. 28.

RESPIRATION IN PREMATURELY BORN CHILDREN.

Glockner reports three cases of **prematurely born children**, one at four months, one at fifteen weeks, the third at nineteen weeks, in whom respiratory movements were followed by marked increase in the vigor and frequency of the heart's action; the mouth was open in these cases during respiratory movements, these movements lasted a little over an hour; on post-mortem examination the lungs were not inflated, and sank when thrown into water; the stomach contained air, and there were also evidences of oxygenation of the blood in the heart. The conclusion is reached that the foetus swallowed air, and that oxygenation of the blood in the gastric vessels resulted, which increased the vigor and frequency of the heart's action. In a criticism upon Glockner's cases, Schultze admits the accuracy of Glockner's observations, but considers the amount of oxygen obtained by the foetus in this manner to be too small to play any part in respiration. He would employ inflating the lungs and artificial respiration in cases of asphyxia where arterial and venous tension are nearly equal; where arterial and venous tension are unequal he considers his method of inflation of the lungs by swinging the child to be the most efficient. *Vide Asphyxia*, page 820.

ACTION UPON THE FŒTUS OF MEDICINE TAKEN BY THE MOTHER.

Using the microphone, Dr. Kubassow has observed the effect upon the heart of the foetus, of medicine taken by the mother,

1. **Chloroform and chloral hydrate**, he finds, have *first a stimulant, then a sedative effect on the foetus*, this last effect being evidenced by the dulness and the infrequency of the heart's beat,

and the greater quietness of the foetus. They act within five to ten minutes, *chloral more powerfully than chloroform, and especially so if given per rectum.* 2. **Opium and alkaloids** cause prolonged irregularity of the heart's beat in the foetus, acting more slowly, but for a longer period than chloral or chloroform. *Opium acts more powerfully per os than per rectum.* 3. **Digitalis** has also a powerful and prolonged action on the foetus. Dr. Kubassow believes, from chemical examination, that a dose of chloral hydrate taken by the mother is divided within fifteen minutes between herself and her child, in proportion to their weights. The practical conclusion is, that more than thirty grains of chloral hydrate will be dangerous to the child, if given at once per rectum, or repeated sooner than in half an hour. The same holds for one and a half grains of opium, as tincture, repeated sooner than in an hour.

ATHREPSIA AND CHOLERAIC DIARRHŒA.

A drop of **Balsam of Copaiba** placed on the umbilical cord of new born infants after section, protects them from athrepsia and choleraic diarrhœa. (Dr. Jose Triano).

CONSTIPATION.

1. R Crystallized Mannite 5—10 parts, Aquæ 50—100 parts. M.
One teaspoonful given every 2 hours for constipation of new born infants.
2. Remedies for constipation in grown up infants and children are F. 2, 3, pg. 873—4; Syr. Rhamnus Frangula; Sweet Essence of Senna with Grey Powder &c.

CARE AND MANAGEMENT OF INFANTS.

The following are sixteen commandments of the Paris Academy of Medicine for the care and management of infants:—

1. During the first year the only suitable nourishment for an infant is its *own mother's milk or that of an healthy wetnurse.* Suckling should be repeated *every 2 hours—less frequently at night.*
2. When it is impossible to give breast milk either from the mother or a suitable nurse, *cow's or goat's milk given tepid, reduced*

at first one-half by the addition of water slightly sweetened and after a few weeks one-fourth only, is the next best substitute.

3. In giving milk to an infant always use *glass or earthenware vessels, not metallic ones* and always observe the most scrupulous cleanliness in their management, rinsing whenever used. Always avoid teats of cloth or sponge, so frequently used to appease hunger or quiet crying.

4. Avoid carefully all those nostrums and compounds so liberally advertised as superior to natural food.

5. Never forget that *artificial nourishment* whether by nursing bottle or spoon (without the breast), increases to an alarming degree the chances of *producing sickness and death*.

6. It is *always dangerous* (especially during the *first two months* of its life) to give an infant *solid food of any kind* such as bread, cakes, meats, vegetables or fruits.

7. *Only after the seventh month* and when the mother's milk is not sufficient to nourish the child *should be allowed*. After the *first year* is ended then it is appropriate to give *light broths or paps* made with milk and bread dried flour, rice and farinaceous articles, to prepare for weaning. A child ought not to be weaned until it has cut its first twelve or thirteen teeth and then only in perfect health.

8. An infant should be *washed and dressed* every morning before being nursed or fed. In bathing a child, temper the water to the weather, carefully cleanse the body and especially the genital organs which require great cleanliness and care; the head should be carefully freed from all seeds and crusts which may form. Where the belly band is used it should be kept on for at least one month.

9. An infant's clothing should always be so arranged as to leave the limbs freedom of motion and not to compress any portion of the body.

10. An infant's clothing should be studiously adapted to the weather, avoiding at all times exposure to the injurious effects of sudden changes in the temperature without proper covering; but nurseries and sleeping apartments should invariably be well ventilated.

11. An infant should *not be taken into the open air before the fifteenth day after birth* and then only in mild fair weather.

12. It is objectionable to have an infant sleep in the same bed either with its mother or nurse.

13. No mother should be in too great a hurry to have a child walk; let it crawl and accustom itself to rising on its feet by climbing on articles of furniture or assisted by the arms of a careful attendant. Great care should be taken not to use baby carriages &c., too early.

14. No trifling ailments in infants such as colics, frequent vomiting, diarrhœa, coughs &c., if persistent, should be neglected—a physician's advice should be at once obtained.

15. In cases of suspected pregnancy, either of mother or nurse the child be weaned at once.

16. A child ought to be vaccinated after the fifth month or earlier should small pox be prevalent.

FEEDING OF INFANTS.

Directions.

Diet for first three months.—The *right food* for an infant is milk. The sources of milk are *mother* which is to be infinitely preferred for a young babe to all other kinds and provided that the mother is moderately strong it should be the only food given until the first teeth are being cut or until the infant is at least 3 or 4 months old. For the first month an infant should be put to breast every 2 hours and after this an interval should be increased by $\frac{1}{4}$ hour every week until he has it about every 4 hours. (*Vide* "Table of Frequency" below). An infant should not be raised from sleep to be fed. It is important that the *baby be fed regularly and the habit of some mothers giving him the bosom every time he cries cannot be too strongly condemned*. He cries not because he is hungry but because he is in pain—his stomach has been overloaded, and to soothe his suffering by offering him the breast is as absurd as trying to extinguish a fire by pouring oil upon it. A better plan is to let him go without a meal, put him into a warm bath, and give him a little cold water if thirsty.

One authority says : " Infants should always be fed from a spoon or cup, not from a bottle. This is the only way to keep them from overfed which with the refusal to them of a free supply of water that idiots still practice, kills $\frac{3}{4}$ ths of the hand-fed children that die. *Always water should be offered before milk is given*, otherwise to quench thirst and not from hunger, they will drink more of the milk than they can digest and a belly of trouble will ensue."

Dr. N. E. Davies says : " In dry-nursed children a quarter of a pint is the maximum for one meal, and the bottle should be removed, whether it is empty or not, if the child exhibits satiety." *Vide* " Capacity of the Stomach in Nursing Infants" below.

Diet for a baby from 3 to 6 months old.—When the infant is 3 or 4 months old and occasionally even before then, artificial food may be necessary. If a good wet nurse cannot be found, cow's milk, condensed milk, goat's milk, ass's milk &c. are to be given but as the two first are easily obtained they are mostly employed.

Diet for a baby over six months.—When the infant is six or seven months old farinaceous food may be given. That is when he begins to cut his teeth. Before this period it is unadvisable to give him any farinaceous food. Carnrick's soluble food, Mellin's Food, Savoury and Moore's infant food, Benger's food. Neave's or Ridge's farinaceous food, Revalenta Arabica, Robb's biscuits &c. may be recommended. *The sole condiment* used in the food of infants should be *salt*.

Table of Frequency with which infants should be fed, either with artificial or natural feeding :—

Under 3 months, every 2 hours.					
Between	3 and 4	„	„	$2\frac{1}{2}$	„
„	4 „ 5	„	„	3	„
„	5 „ 6	„	„	$3\frac{1}{2}$	„
	At 7	„	„	4	„

As the intervals increase, the quantity should be augmented.

The Capacity of the Stomach in Nursing Infants.
The observations upon which this subject is founded were made *post*

mortem by Dr. L. Emmett Holt. The number of cases was 142, and the general conclusions were as follows : (1) Startling at birth with a capacity of about one ounce, the stomach increases in size at the rate of one ounce a month during the first three months, reaching at this time about one-half the capacity found at one year. (2). From 3 to 8 months its growth is much slower, being, on the average, about half an ounce a month. (3.) From 8 to 14 months the rate of growth is still less, being, on the average, about one-third of an ounce a month. Approximately, at the ages of 1, 3, 6, and 14 months the average capacity is respectively 1, $4\frac{1}{2}$, 6, and 9 ounces. No correspondence could be traced between the weight of the child and the capacity of the stomach. Dr. Holt points out the remarkable agreement between his results as to the capacity of the stomach and Dr. Rotch's observations (*Keating's Cyclopaedia*) as to the quantity of food for a single feeding at different ages, although the two sets of results are arrived at by entirely different methods.

Substitutes for Human Milk.

1. (Sp.) R Fresh cow's milk 1 pint, Skim milk $\frac{1}{2}$ pint, Water (hot) $\frac{1}{2}$ pint, Sugar of milk 1 oz.

Dissolve the sugar of milk in the hot water and mix. This makes the **nearest approach to human milk** attainable, and the addition to the above of 10 grs. of **Carbonate of Soda** would prevent it turning sour and render it more digestible. On this a child would thrive—if obliged to be dry-nursed—for the first seven or eight months of its existence. (Dr. N. E. Davies).

2. (Sp.) Dr. S. B. Sherry, of Delafield, Wis., recommends the following formula for a substitute for human milk Add a pint of boiling water to an ounce of **pearl barley**, allow it to cool, and then strain it. Mix one-third of a pint of this barley-water with two-thirds of a pint of fresh, **undiluted cow's milk**, and sweeten with a tea-spoonful of **milk-sugar**. It is a good infant food.

3. **Unsweetened condensed milk** is four times as strong as cow's milk ; this, *diluted with six times its bulk of* **warm water**,

with the addition of a little **sugar of milk** *not* ordinary sugar, would be the most uniform and best substitute for human milk procurable. (Dr. N. E. Davies).

Artificial Asses' Milk.

It may be made thus—half an ounce of gelatine dissolved in half a pint of hot barley-water, one ounce of sugar, and a pint of of good new cow's milk. (Dr. N. E. Davies).

Vide Pancreatine 534—5.

STERILIZATION OF MILK.

The question of sterilizing milk is one of special importance in relation to the well being of children, to whom this commodity forms the staple food, especially during the hot days of summer. The process can be readily carried out without putting the householder to the expense of purchasing some special sterilizing apparatus. All that is necessary is to obtain some bottles capable of containing the milk which will be consumed during the day, each bottle being large enough to hold the quantity which will be used at one time. Absolute cleanliness being an essential feature in this particular, these bottles and their corks should be thoroughly sterilized by being boiled in a solution of washing soda. When the milk is brought to the house it should be placed in bottles, the latter afterwards being arranged on a wire frame in a pot of water and then boiled for 15 minutes. The bottles should then be immediately securely corked and placed in a refrigerator with the ice upon them. Milk thus prepared is rendered free from "*germ*"-life. The effect of sterilizing milk, if it became a routine process in family households, would be of course of great service in affording protection against scarlet fever, typhoid fever, and other diseases whose propagation by means of milk under certain circumstances has been known to occur.

The method of sterilizing, as between boiling and steaming, is a point of some interest. Prolonged boiling of milk, while destroying the germs, produces other changes, such as the formation of a scum in contact with air, consisting of coagulated albumin

with a small modicum of fat. According to Dr. Townsend, boiling expels about three per cent. of CO_2 , N and O, which may explain the flat taste of milk so heated. Sterilization by steam appears to be more thorough and complete than that effected by boiling in water. For the past year, Dr. Chapin has used the "Arnold" steam cooker, with much satisfaction. The printed circulars advise that the milk be heated from 30 to 40 minutes. This is too short a time; fully an hour and a half is needed to keep milk sweet for any length of time. Dr. Chapin's experiments showed that the prolonged heat necessary for thorough sterilization has a tendency to cause the coagulation of the casein to take place in smaller clots and thus more closely resemble that of mother's milk.

Heating for an hour in all has generally been employed. Malt extract may be mixed with milk and the whole sterilized. Milk may be sterilized in bulk in tin trays or bottles by means of steam, in Koch's sterilizer. If possible, not more than an hour should elapse between milking and sterilization of the milk. Hay bacteria are not always destroyed by sterilization, but the bacteria producing acids are destroyed.

Escherich finds a convenient method of corking bottles in which milk is sterilized, to be by boring a small hole through the neck at such a height that it will be covered by the rubber nipple when applied. A rubber cork is used with a notch so cut that by turning it opposite the hole a small aperture is created, through which gas may escape in the first stages of sterilization. After the gas has escaped the cork is turned again and the bottle made impervious.

ALCOHOLIC HEREDITY IN DISEASES OF CHILDREN.

In all cases where alcoholic ancestors, even back to the second generation, can be traced, there are certain predispositions which must be considered in the treatment.

First.—A tendency to exhaustion from feeble vitality, and low power of restoration. *Tonics and nutriments* that have a direct stimulant action on the brain *should not be used, such as alcohol and opium, and meat broths.* These remedies have a tendency to still further exhaust the vital forces, paralysing the nerve centres and increasing the carbonaceous matters of the system.


Second.—An instability of cell, and nerve function, and strong predisposition to develop into some particular form of degeneration, which is practically, an exhaustion of the higher brain centres with craving for relief. *All stimulants and remedies* which act on the brain centres *increase the existing degeneration.*

Third.—There is a special affinity for all nerve stimulants by those higher brain centres. Their use constantly interferes with the natural development of brain energy from food. Thus, **alcohol, tea, coffee,** and other substances have a peculiar *delusive effect.*

From these facts it will be obvious that the diseases of children of alcoholic parentage are far more complex, and require greater care. In addition to whatever disease they suffer from, there is always neurasthenia and defective control of the brain centres, which may come into prominence at any moment, from causes both known and unknown. This heredity bias and neurotic instability enters into all cases.

The general principles which should govern in the treatment may be grouped as follows : (1.) *No form of alcohol is safe, and narcotics of all kinds should be used with great care.* (2.) *The diet should not include meats of any kind, because of their stimulating character; while meats contain much food force, they act as stimulants to a brain already over-stimulated and exhausted, and increase the peril of nervous disease. The pathological tendency of all these cases is to become alcohol-takers and meat-eaters, hence the diet should be non-stimulating and farinaceous, and should be carried out with military regularity.* (3.) The **hygienic treatment** is also of the greatest importance; every means and measure which can build up a system, and avoid brain and nervous stimulation, is required. (4.) Cases of this character should be guarded against every possible extreme, both in the surroundings and physical conditions that are under the control of the physician. The tendency of all energy and nerve force is to pass off in explosions, which should be counter-acted; the diseases they suffer from show this tendency to concentrate and become intensified in certain directions, also to manifest distinct exacerbations. Finally, the fact of an alcoholic heredity in disease of children that we are called upon to treat, gives a wider therapeutical range of possibilities, both in direct and preventive medicine.

Recent studies of alcoholic cases show that over seventy per cent. are directly inherited. If this is confirmed by later studies, the treatment of inebriety will in the future begin in infancy, and the higher science and art of medicine will win its greatest triumphs along the line of prevention. (T. D. Crothers, M.D.).

 The diseases of infants and children have been treated under general diseases in the work.

PARALYSIS.

1. F. 16, page 845 ; F. 26, 27, page 874 ; F. 6, page 984.
2. Camph. Monobrom., Cannabis 137, Cod. Liver Oil, Colocynth, Ergotin, Eserine 563, Gelsemium 297, Hoang Nan 327, Ignatia, Mistletoe 498, Mineral Waters, Nux. Vom., Pelletierine Sulph. 586, Phosphorus, Picrotoxin 200, Rhus Toxicoden., Spermine 676-7, Strychnine 514. *Vide* **Apoplexy and Cerebral Hemorrhage.**

PARALYSIS AGITANS.

Antipyrine, *Atropine* 83, Cannabis 137, *Coninæ Hydrobrom.* 215, *Hyoscyamine* 359, *Hyoscinæ Hydrobrom.* 361.

PERITONITIS.

1. Ext. Opii gr. 1, Calomel grs. 3, M. ft. pil. Dose : 1 pill.
2. Ext. Opii gr. 1, Ext. Aconiti gr. 1, M. ft. pil. One every 4, 6 or 8 hours.
3. Acetanilid, Antipyrin, Digitalis, Kairin, Morphia.

TUBERCULOUS PERITONITIS.

1. (Sp.) From a careful study of the reports of **Laparotomy** in tuberculosis of the peritonæum, and of the various essays upon this subject, Dr. Parker Syms has come to the following conclusions :—

(1.) That the *danger of the operation is very slight*. At present the death-rate is but 3 per cent. (2.) That *sepsis is not so likely to occur* in these peritonæa as in laparotomy on healthy ones, on account of the pathological changes which have taken place in the

membrane. (3.) That *tubercular infection of the wound does not occur*. (4.) That *disinfectants are useless* and that *drainage should not be used*, as it is likely to result in a *permanent sinus*. (5.) That in successful cases the operation at least does no harm. Most of the patients who have died at a time remote from the operation have succumbed to general tuberculosis or to a tuberculosis of some other organ. (6.) That *established—not advanced—pulmonary tuberculosis is an indication for and not against the operation*; for the improvement gained enables the patient to better resist the phthisis, and, if this latter is but incipient, recovery may take place. (7.) That laparotomy is the proper form of treatment for these cases. In some unknown way it exerts a most beneficial influence upon the disease, resulting in a cure in a large proportion of cases; and in a marked improvement in nearly all.

König has made the most complete collection of cases. It embraces virtually all that have been reported. He tabulates 131 cases of operation, including 14 of his own. His treatment consisted in incising the abdomen, washing out as far as possible any tuberculous masses which were loose or could be easily loosened with water sterilised by boiling. Of his fourteen cases, seven remained well now, three had died from causes quite unconnected with the operation, and but one of collapse caused by the operation itself, whilst he had lost sight of the remaining three. An inquiry into the subsequent history of all the cases of other operators as well as his own would show that the cure was at least fairly permanent. One case, the first ever opened (namely, Spencer Wells's case) was well twenty-five years after, and a few others could be mentioned in which a considerable time had elapsed since the operation. In recent times, he had ascertained that seventeen were alive one year after operation, thirty more two years after, and fourteen more three years after operation.

Vierordt summarises his experience as follows:—(1.) That tubercular peritonitis can be cured by rest in bed, suitable diet, and other treatment is certain; but if, after a full trial of such treatment, no improvement occurs before the strength of the patient has seriously suffered, laparotomy should be performed. Simple puncture is of no avail. (2.) In considering the advantages of laparotomy, distinction must be drawn between incision, with removal of the exudation, and

more extensive operations. (3.) A simple incision is often successful in suitable cases ; such are cases of peritonitis in which the inflammation has spread from some other serous membrane (more especially the pleura), and in which the disease in the first membrane attacked is progressing favourably. (4.) Even if there is an active tubercular process progressing in the pluera or pericardium an incision is often beneficial.

Dr. O'Callaghan advocates a small incision into the abdomen in all doubtful cases where the abdomen is ascitic without good cause and does not rapidly yield to medical treatment. The introduction of the experienced finger enables a diagnosis to be readily made, and is far better than a leap in the dark with a trocar.

Vide Tuberculosis.

PERTUSSIS (WHOOPIING-COUGH).

1. (Sp.) **Bromoform.**—Dr. Löwenthal says that it exerts an *almost specific action upon whooping-cough*, at all events, if it is used at the commencement. A hundred children were treated with it varying in age from eight weeks to seven years. The doses given were from two to five drops three or four times a day. The liquid was simply dropped into a teaspoonful of water, and formed a bead floating in the water. The quantity dispensed at once was about a drachm. The parents were *cautioned to keep the bromoform from the light*, as otherwise it is liable to be *decomposed*. As a rule the good effects of the medicine began to show themselves on the second or third day, the *vomiting being arrested* within a week after the commencement of the bromoform. In cases where complications, such as *pneumonia*, occurred they ran a favourable course, and where there were relapses a return to the bromoform soon arrested the symptoms. In a very few cases the drug appeared to produce sleepiness and lassitude, and in one case, that of a weakly child a little over a year old, where a drachm had been given in the course of three days, a semi-comatose condition was induced. Subcutaneous injections of ether revived the child, who was found to have pneumonia. This, however, ran a rapid and favourable course, and afterwards the whooping-cough was successfully treated by renewed doses of bromoform.

(*Vide* pg. 115-6, for Dr. Stepp's **Report, Doses, &c.**)

2. (Sp.) **Acid Hydrofluoric.**—Dr. B. Hernandez Briz of the General Hospital, Madrid, who had last autumn been employing hydrofluoric acid inhalations in phthisis, shortly afterwards determined to try the effect of similar treatment in whooping-cough. The result was so satisfactory that he continued to employ the method in fresh cases as they presented themselves, with equally good results. Dr. Cisneros, of the same hospital, has also made use of the hydrofluoric acid with success. He remarks that three or four inhalations are sufficient, and that it is inadvisable to continue them longer lest they should act on the pneumogastric nerve and excite spasmodic action. Dr. Perez Valdés, another friend of Dr. Briz, has also obtained good results from this treatment. He puts a tablespoonful of the acid into rather less than two quarts of water, renewing the liquid every three days; any inhaler that works satisfactorily will do. He gives the inhalations on alternate days, and confines the total number to five. He says that the cough that persists after the paroxysmal affection has subsided is simply catarrhal, and that it can be cured by ordinary treatment.

3. (Sp.) I have settled down for the most part into the treatment of uncomplicated cases with *Nitric Acid and Ammon. Bromide*, combined with *bark* and probably *Ipecac. and Squills*, with the external application of a *stimulating liniment to the chest, back and spine*. In its early stages, *Ammon. Carb. with a diminished dose of Bromide* is of service with *Tolu and Senega*. The dose of the Bromide should be a diminished one as some authorities on the subject have pointed out, as, if given in the larger doses in this complication of the disease, the tendency to drowsiness is increased. Frequently however notwithstanding the stimulant expectorants, the respiration becomes quicker, secretion from bronchial tubes seems to be secreted in larger amount and accumulates in tubes. Here I give 2 mixtures, each every 6 hours, the one within 3 hours of the latter; the *first* containing **Ol. Terebinth., Sp. Etheris and Tolu**, the *second* containing a small dose of **Ammon. Bromide with Senega and Bark**; I find this treatment **most efficacious**; the Turpentine dislodges the secretion and acts as a stimulant, the Ether relieves the spasm and also stimulates and Nitric Acid acts as specific. More reliance is placed upon **Nitric Acid** than on Ammon. Bromide. For

a child of 5 years old, I give upto 10 mins. of the dilute acid for a dose and of turpentine 5 mins. for same age. When improvement has taken place *Cod Liver Oil* is of great service, also *Quinine and Iron* either separately or combined with, followed up by usual *change and air*. (W. B. Crookery, L.K.Q.C.P.I., &c.).

4. (Sp.) Dr. C. R. Illingworth cures worst of the cases in from 7 to 10 days with the following treatment :—

(a.) R Chloral Hydrate gr. 1 or 2 or 3, Tr. Belladonnæ min. 1 or 2 or 3, Alum gr. 1, Acid Carbolic min. 1, Syrupi q. s. M. To be given every 2 or 3 hours.

(b.) *Glycerine of Tannic Acid* applied with a laryngeal brush 2 or 3 times a day.

(c.) An liniment of *Turpentine, Acetic Acid* and *Yolk of Egg* is an excellent application for the chest, back and neck, night and morning, with the *Lin. Belladonnæ* added in the proportion of 1 to 7.

(d.) In children of 2 years or more *Carbolic Acid* and *Glycerine* is applied, in the proportion of 1 to 15, to the larynx with success, each application checking a paroxysm at once.

(e.) *Picked Oakum* worn by the patient either round the neck in muslin or on the chest as a pad stitched to the under clothing.

5. (Sp.) **A plan for relief of whooping cough spasm.**—Dr. Naegeli describes the convulsive attack of choking in whooping-cough as follows :—Spasm of the glottis makes every inspiration impossible, tonic convulsions of all laryngeal muscles follow, all muscles of the throat, and at last those of the face, also share in the attack. Trismus almost always is present during the acme of the convulsion, although the tongue generally protrudes. As soon as it is possible to open the rima glottidis again so far as to admit of sufficient air for respiration, all sensation of choking and congestion of the blood with their sequelæ disappear as by a miracle. Heiberg was the first to observe that the raising of the upper jaw is the best method of making the larynx admit air, and he recommended a plan for that purpose, which Kappeler had mentioned before him, and which Naegeli has modified and described as follows : Standing in front of the child, the nurse lays firm hold with the index and middle finger of the ascending

ramus of the lower jaw in front of the ear, places both thumbs against the chin, and by strong but gentle traction and pressure *moves the lower jaw forward and downward*. If the mouth is a little open the jaw may be fixed by placing the thumb or index finger along behind the anterior lower incisors and grasping the chin with the rest of the hand, performing traction as above. In all these cases the left hand rests on the forehead of the patient and performs counter-traction. If the nurse is behind the patient, she may place both thumbs close above the angle of the jaw, the index on the zygomatic arch, and the rest of the fingers on the chin, pushing forward and downward. Immediately the upper jaw is raised the child must be told to draw a deep breath. The plan *may be adopted even if the fit comes on during sleep*, and Naegeli says that if so the child does not wake. Naegeli claims that in 2 different children he has succeeded more than 500 times in apparently arresting the spasms of whooping cough by this plan. He states that the result of the procedure is not due to psychic influences, for this method succeeds even during sleep. The parents of the children may themselves employ this procedure, as it is perfectly simple and completely harmless, only it should **not be done when mouth contains food**. It is stated that the regular suppression of the spasms of whooping cough *exerts a favourable influence on the progress of the disease*, and by preventing the attacks it *considerably reduces the mortality of this affection*.

6. **Abortive Treatment of Whooping-Cough.**—Dr. Sawarowsky recommends the **inhalation** of a mixture containing fl. dr. 1 of **Chloroform** and 3 drops of **Amyl Nitrite**. Besides this he administers for three days, at intervals of two hours, the following powder : **Argent. Cyanidi** gr. 1/12, **Argillæ Puræ** grs. 3. *Hot articles of food and drink are to be prohibited*. Under this plan of treatment the most obstinate cases have yielded within a very few days.

7. **Syrup of Codeine.**—R Codeine gr. 1, Ext. Gindel. Rob. Fl. ozs. 2, Ext. Evening Primrose Fl. oz. 1, Syr. of Liquorice Extract ozs. 2. M. A teaspoonful after each paroxysm to a child 2 years old.

8. R Ammoniac grs. $1\frac{1}{2}$ to $7\frac{1}{2}$, Syr. of Orange Flowers or Red Poppy grs. 375, Inf. Elecampane or Virginia Snake Root grs. 1125, M. A teaspoonful, to be repeated with greater or lesser frequency,

according to the child's age and the effect produced. When *expectoration is very abundant* and as if formed of *muco-pus*, a **terebinthinate** (syr. of fir-cones, of eucalyptus, or of turpentine) is prescribed. **Flowers of Sulphur** $\frac{3}{4}$ to 2 grs. with honey may also be given 2 times a day.

9. R Musk grs. 3, Pot. Bromidi grs. 30—40, Aquæ Lauro-cerasi drs. $1\frac{1}{2}$, Spt. Etheris drs. 4, Syr. Bellad., Syr. Codeinæ, â â. oz. 1, Syr. of Orange flower ozs. $1\frac{1}{2}$. M. A sedative solution for whooping cough and administered in doses varying according to age, as a teaspoonful to a child 8 or 10 years of age, &c.

10. Simple **Oxymel Scillæ** given pure without any excipient is said to cure whooping cough in 7 days and even sooner :—

For suckling infants 20 to 40 or 60 drops in 24 hours, in the intervals of nursing. For children of about 2 years of age 4 to 5 teaspoonfuls, taken afternoon and evening, in intervals of 6 minutes. For 3 years of age and older, 6 to 7 teaspoonfuls as above. For adults 8 to 9 teaspoonfuls taken as above. It is *indispensable* that the stomach be empty when the drug is taken and the latter be taken until the disappearance of paroxysm.

11. R Ext. Cannab. Ind. grs. 15, Ext. Bellad. grs. $7\frac{1}{2}$, Alcohol Abs. drs. $1\frac{1}{2}$, Glycerine drs. $1\frac{1}{2}$. M. For children 8 to 12 months 4 to 5 drops for a dose ; 1 to 2 years—5 to 8 mins. ; 2 to 4 years—8 to 12 mins. ; 4 to 8 years—10 to 12 mins. ; 8 to 12 years—12 to 15 mins. ; over 12 years—15 to 20 drops.

12. (Sp.) **Antipyrin** gr. 1 for infants and $7\frac{1}{2}$ grs. for grown up children, and 5 to 15 grs. per day to children, under 3 years of age and 20 to 60 grs. per day for older children and adults, in syrup of raspberry, is effective. *Vide* pg. 63.

13. F. 3, pg. 934.

14. **Inhalations.**—(a.) Steam from the heated solution of $1\frac{1}{2}$ to 2 parts **Carbolic Acid** in 100 parts water, inhaled thrice daily, is prescribed by Dr. Burchardt, Berlin.

(b.) Dr. Banning has used **Carbolic Acid** with very good results, and says a few drops evaporated on a hot showel in the bedroom, on going to bed, will generally prevent any severe attack during the night. *Vide* pg. 8.

(c.) Inhalations of **Benzoate of soda** 50 to 80 grs. in 4 ozs. of water repeated several times daily are highly useful (d.) *Vide* F. 6 above.

15. **Insufflations in the nasal fossæ** of various powders have been employed as follows :—

(a.) Dr. Michael used with success a powder composed of Quinine, Benzoic Acid, Tannin and Marble dust. (b.) Dr. J. Bochen blows Quinine 3 parts with Pv. Acaciæ 1 part and cures in 21 days. (c.) Pulverized Boric Acid and burnt Coffee, or Boric Acid with Benzoic Acid, or Boric Acid with Quinine have also been found palliative in the hands of others.

16. R Ol. Succini, Ol. Olivæ, â â drs. 4, Ol. Caryophylli dr. 1. M.
A substitute for **Roche's embrocation** to be rubbed down the spine.

17. R. Ol. Succini, Spts. Camphoræ, Spts. Hartshorn, â â partes equales. M. Same as above.

18. R Ext. Aconiti dr. 1, or Ext. Conii dr. 1, Adepis drs. 4. M.
To be rubbed on the chest or sides of the neck. It is said to have a marvellous effect in checking paroxysms.

19. Application of counterirritants over the pneumogastric nerves on both sides of the neck is very satisfactory in relieving violent attacks of whooping cough.

20. F. 3, pg. 934.

21. Other internal and topical remedies, as well as those by inhalation and fumigation are :—Allyl Tribrom., Antifebrin 51, Assafætida, Benzol 755, Button-Bush, Chest-Nut leaves, Cochineal, Cocaine 193, Collinsonia, Coninæ Hydrobrom. 214, Croton-Chloral 223, Drosera Rot., Duboisia, Ergot 243, Ethyl Bromide 255, Eucalyptus 258, Euphorbia Pilulif., Evening Primrose, Gelsemium, Grindelia Rob. 309, Helenin, Hydrogen Peroxide 355, Indian Turnip, Jaborandi 402, Jamaica Dogwood 419, Lobelia, Menthol 487, Oabain 765, Phenacetin 557, Pulsatilla, Resorcine 608, Sanguinaria, Sanitas Oil 643, Saw Palmetto 650, Skunk Cabbage, Sodii Benzoas 659, Sulphur 699, Trifolium Pratense, Strammonium, Valerian, Yerba Santa 742.

PHARYNGITIS, PHARYNGEAL CATARRH, &c.

1. In acute pharyngitis, salines, wet compresses to throat or a mustard plaster, sucking of ice, light diet &c. are serviceable.

2. In chronic pharyngitis, a warm solution of 5 to 10 grs. of **Sod. Carbon.** to oz. 1 repeated 3 or 4 times daily for a few minutes each time is used by means of a spray.

3. A solution of Menthol 20 p. c. in olive oil is an admirable application for recurrent sore throat from pharyngeal catarrh by camel hair brush. *Vide* pg. 488.

In more chronic form paint naso-pharynx with Mandl's solution :—

R Pot. Iodidi grs. 50; Iodum grs. 12, Glycerini oz. 1, Ol. Menthae Pip. mins. 5. M.

Apply with a bent brush, and all parts of back of throat touched with it, first daily and then every 3 days.

4. Inhalation of **Ammon. Chloride vapour** is useful for **relaxed conditions** of naso-pharynx and post-pharyngeal affections.

5. F. 1, **Coryza.**

6. Acid Trichloracetic 749, Actæa Rac., Glycerine pure or Glyc. Acidi Tannici (E.), Glyc. Alumini 306, Hamamel. 321, Hazeline 322, Hydrastis 344, Hydrastine 349, Pomegranate bark (gargle), Pot. Chlorate, Salol 632, Thymol 710, Virginia Stonecrop, Xanthoxylum, Yerba Santa 744, Zinc Sulphate (gargle).

PHOSPHATURIA (PHOSPHATIC DIATHESIS).

1. In phosphaturia you must cautiously abstain from all drugs or measures that are calculated to lower the vital powers ; from saline draughts, and alkalies of every kind ; from mercury and colchicum &c. You may counteract the alkalescent tendency by a generous and nutritious diet and by the exhibition of tonic medicines ; **bark, wine, and acids** : the muriatic acid, or the nitric, or both together, may be given in such cases before meals with vast advantage sometimes. **Opium** is also a remedy to be employed in this form of disease. No single drug

probably has so much power in rendering alkaline urine acid, as opium. And it is indicated for other reasons ; it composes the nervous anxiety to which these patients are mostly a prey. Mental relaxation—freedom from care—the relinquishment of all exhausting habits and pursuits—these too are points of vast importance, whenever they are attainable. If laxatives be employed when indicated the neutral salts are preferable. (T. Watson, M.D.).

2. Hydrangea, Pareira, Pichi 568, Uva Ursi.

PHTHIRIASIS (LOUSINESS).

1. R Hydrarg. Perchl. grs. 3, Acid Acetic drs. 2, Aquæ ozs. 6. M.
To be used as a wash night and morning for nits in the hair.

2. Solution of Corr. Subl. in Vinegar is recommended by Saalfeld as a convenient and safe remedy for pediculi pubis.

3. Corr. Subl. grs. 5 to an ounce of vaseline or water is effective for pediculi capitis.

4. R Ung. Hydrarg. Ammon. dr. 1, Ung. Sulph. drs. 3. M. For pediculi capitis.

5. R Naphtholi grs. 10, Vinolia dr. 2. M. For lousiness, scabies and chronic eczema.

6. (Ind.) A paste of the seeds and immature fruits of *Anona Squamosa* (Custard apple) applied to the head is beneficial for removing lice from the head.

7. Acid Sulphurous, Naphthalin 503 (4), Naphthol Soap 891, Ol. Hydrarg., PicROTOXIN 200, Sublimate Soap, 892, Ung. Hydrarg. Ammon. or Ung. Hydrarg. Ox. Rubr. (but the powders can be used alone or mixed with rose water in order to avoid greasing the linen), Ung. Sabadillæ, Ung. Staphisagriæ. *Vide Parasiticide*s and also pg. 1097.

PHTHISIS PULMONALIS (CONSUMPTION).

1. Brief Practical Notes on the treatment of Symptoms and Complications.

Cough.—Good nourishment and attention to the digestive functions are the best means of checking both the cough and expectoration.

Cough mixtures and cough lozenges containing **opium or morphia** are **poisons** to the **consumptive** patients. Among the simpler remedies are liquorice, barley water acidulated strongly by lemon juice or citric acid, raspberry vinegar and water, red gum lozenges. When the cough is teasing and especially for the cough at night, the patient is recommended to keep a piece of **Camphor** under his pillow and if his cough is troublesome to hold the camphor to the nose and mouth with his handkerchief covering his head with the bed clothes. Or use by steam, viz., put a piece of camphor into a jug or inhaler with half a pint of boiling water. The use of this for a few minutes at bedtime allays the irritability of the fauces and permits sleep. Another inhalant which can be relied with confidence is :—

Succi Conii dr. 1, Liq. Ammon. Fort. mins. 15. M. ft. vapor.
Sig. To be inhaled with $\frac{1}{2}$ pint of hot water. Another draught is :—

Codeiæ gr. 1, Tr. Card. Co. mins. 10, Syr. Tolutanæ mins. 20, Aquæ ad dr. 1. Ft. linctus. Sig. To be taken when the cough is troublesome.

Codeia Lozenges are also useful. $\frac{1}{36}$ gr. of Morphia can be substituted for Codeia. Much relief has been obtained in distressing cough of phthisis and in similar lung affections by inhaling the **vapour** disengaged by evaporating **Glycerine** oz. 1 in a porcelain capsule over a spirit lamp. To prevent dryness of the mouth and throat, Wyeth's tablets of Pot. Chlorate and Borax be given.

Other remedies for cough are : Ammon. Borate 110, Acid Lactic 14, Drosera 238, Cerii Oxalas 157 (4.), Grindelia 309, Jamaica Dogwood 419, Mullein 499, Sanguinaria 637, Yerba Santa 744.

Bronchitis.—Most of the consumptive patients when they first come under treatment are suffering from more or less bronchitis. In most cases rest in bed is necessary ; the *diet should be unstimulating, the quinine and cod liver oil should be stopped for the time*. In milder cases **Camphor**, in severer cases **Turpentine** forms the principal remedial agent, given by means of inhalation or applied to the skin. Externally chest may be rubbed with Lin. Camph. and Lin. Terebinth. Acet. or in most severer cases a waist coat should be made of *spongio-p.lin* fastened by means of tape shoulder straps and tapes to tie in front

and should be worn constantly and kept wrung out in hot water and sprinkled with few drops of Turpentine. Next in importance to Turpentine is **Sulphur**. Formerly it was given in all cough prescriptions in all cases of chronic cough in the aged and debilitated constitution with copious bronchial secretion. Finally ordinary stimulant expectorants are usually useful. Other inhalations are: Acid Carbolie, Acid Fluoric 13, Hydrogen Peroxide 356, Terebene 703, Sanitas Oil 642.

Pain.—Strong counterirritants as Iodine and Cantharides are useful in all cases where there is **pleuritic pain**. *Vide* Pleurisy.

A little of the following application to be rubbed for a minute or more night and morning across the upper part of chest, side, back or shoulders, where there may be **pain** in phthisis.

R Lin. Camph. Co., Lin. Saponis, Tr. Bellad., â â. drs. $3\frac{1}{2}$, Ol. Cajuputi drs. $1\frac{1}{2}$. M. (G. Congreve).

Profuse Purulent Expectoration.—Good feeding and Cod Liver Oil are better means to check cough than any mixtures of Ipecac and Squill. Good nourishment and attention to digestive organs are most important. But with respect to drugs the most important is Iron. The best preparation is **Ferri Sulph.** of which 15 to 20 grs. should be given daily either in mixture or pill. **Eucalyptus inhalation** is the most useful adjunct to it. *Vide* pg. 258 and 260 (3.)

R Creasoti, Alcohol, Sp. Chloroformi, â á. dr. 1. M. From 10 to 30 drops are to be inhaled.

It allays cough modifies the quantity and quality of sputa in pulmonary phthisis. Also give a dessertspoonful of **Mist. Creasoti** every 2 hours which lessens abundance of expectoration and also diminishes the frequency of cough; acting as an *anticatarrhal* and a destructive of bacilli in purulent cavities. It does not destroy appetite like opium. *Vide* pg. 229.

Vide **Bronchorrhœa**.

Anorexia.—All that tends to improve the general health and strengthen the patient tends also to increase appetite and capacity for digesting food. After fresh air and exercise, to obtain which a change to a more genial climate is desirable there is no drug which

creates appetite than Quinine combined with Hydrochloric Acid. Benger's Liquor Pancreaticus gives nutrition and gives power of digestion to the stomach. Kepler's Malt Extract is also valuable means for attaining the same end. Cod Liver Oil is also a promoter of appetite but can be temporarily suspended for gastric irritability. Malt liquors especially stout and porter possess the nutritive quantities of malt extracts in a minor degree combined with the stimulating effect of alcohol. They are apt to increase the cough but if not objectionable on this score, are useful dietetic agents. Other important dietetic agents are Kefir, Konmiss, Pancretine &c.

Diarrhœa.—There are 3 forms :—1. Simple diarrhœa due probably to some derangement of nervous system and analogous to sweating of the skin. 2. Diarrhœa from intestinal catarrh with or without ulcer. 3. Diarrhœa from amyloid disease of the intestinal mucous membrane. Of these forms 3rd is probably incurable by any means we at present possess. 2nd is very liable to recur especially if ulceration is present and is often obstinate and finally fatal. The first is transient and if left alone would soon stop of itself and checked by chalk mixture or following :—

Acid Sulph. Dil., Tr. Aurantii, â â. drs. 2, Sacch. Albi q. s. Aq. Fontanæ O. 1. M. To be drunk ad libitum every $\frac{1}{2}$ hour till the diarrhœa has stopped. (This pleasant and effectual means of stopping diarrhœa is equally serviceable in ordinary summer diarrhœa and in the diarrhœa of typhoid fever). At the same time regulate diet, stop temporarily Cod Liver Oil and allow only milk and lime water if the attack is severe or the patient weak. In cases where simple means fail, give starch enema with opium (Starch oz. 1, Tr. Opii mins. 30, Aquæ oz. 2—2 $\frac{1}{2}$). Another injection is of oz. $\frac{1}{2}$ of Extr. Ergot. Liq. with water.

Other remedies are : Coto 227, Guarana 315, Helenin 324, Mullein 499, Thymol 709 ; F. 12, 14, pg. 905 and F. 19, pg. 906.

Dyspnœa Vide pg. 921.

Fever.—1. **Heim's Pills.**—R Digitalis gr. $\frac{1}{2}$, Ipecac. gr. $\frac{1}{4}$, Opii gr. $\frac{1}{4}$, Ext. Helenii q. s. ft. pil. One t. i. d. As an antipyretic in phthisis these pills give excellent results. Dr. Niemeyer, in his "Practical Medicine," speaks highly of this and the following combination.

2. **Heim's Pills with Quinine.**—R Quiniae Sulph. gr. 1, Digitalis gr. $\frac{1}{2}$, Ipecac. gr. $\frac{1}{4}$, Opii gr. $\frac{1}{4}$, Ext. Helenii q. s. ft. pil. One t. i. d. It is especially appropriate in cases of *phthisis*, when fever of a periodic type, marked by chills and evening exacerbations, is present.

☞ Their effect, like that of other preparations containing Digitalis, *must be watched*. They should be suspended when a reduction of temperature and frequency of the pulse are apparent, and resumed as occasion may require.

3. Ammon. Borate, Creasote, Phenacetin 555, Sodii Benzoas 659, Thymol 709, Warburg's Tincture, 734, para 3, pg. 958. *Vide Antipyretics.*

Sweating.—*Vide Hyperidrosis*, pg. 1008—9.

Hæmoptysis.—*Vide* pg. 988-992.

Vomiting.—Iodine 383, *Vide* also pg. 931 (8.) and 933 (2.)

Dr. Koch's Tuberculin or Anti-tubercular Fluid.

Dr. Koch's remedy is a transparent, reddish-brown fluid, not unlike brown sherry in appearance. It has no sediment, and when undiluted does not readily decompose. When diluted with distilled water it is, on the contrary, apt to decompose. Bacterial growths quickly appear in it, and it becomes turbid. In this condition it is unfit for use. Its decomposition in dilution is prevented by boiling it, but that process is not necessary if the dilution be made with a half per cent solution of Carbolic Acid in distilled water. It should be remembered that both by the frequent boiling of the dilution, as well as by the mixing of it with Carbolic Acid in the way described, the vigour of the action of the remedy is impaired, and therefore fresh solutions ought only to be used. Experience has however shown that a 1 per cent. dilution of the remedy made with distilled water, containing $\frac{1}{2}$ per cent of Carbolic Acid, remains efficient at the end of one week. Addition of alcohol also causes precipitation.

In the main it appears that this anti-tubercular fluid is prepared by making an extract of pure cultivations of the tubercle bacillus by means of a solution (40 to 50 per cent.) of glycerine. The effective agent is insoluble in absolute alcohol, and seems, according

to Prof. Koch, to be derived from and allied to albuminoid substances ; but he states that it is not of the class of toxalbumins, because it resists high temperatures and can be readily and rapidly dialysed. The proportion of the substance in the extract is apparently very small. It is estimated at fractions of 1 per cent.

The mode of action of the remedy within the body is not yet fully known. This much, however, is certain : tubercle bacilli are not destroyed by it in the tissues. It is upon the living tubercular tissues encircling the tubercle bacilli that the remedy produces its effect, and Koch says of this action that there is, "as is shown by the visible swelling and redness, considerable disturbance of the circulation and, evidently in connexion therewith, deeply seated changes in nutrition, which cause the tissue to die off more or less quickly and deeply, according to the extent of the action of the remedy." "To recapitulate," he goes on to say, "the remedy does not kill the tubercle bacilli, but the tubercular tissue ; and this gives us clearly and definitely the limit that bounds the action of the remedy. It can only influence living tuberculous tissue ; it has no effect on dead tissue, as, for instance, necrotic cheesy masses, necrotic bones, &c., nor has it any effect on tissue made necrotic by the remedy itself."

In dead tubercular tissue living tubercle bacilli are often found. If the organisms so situated do not escape in some way from the body, they may find a nest for themselves there, and so set up fresh centres of tubercular disease. This fact clearly indicates that the treatment of tuberculosis by this new remedy must be continued for some time. From what is now known, it seems likely that about six weeks will be required to rid patients in the early stage of consumption of the symptoms of their disease. Whether this does or does not mean the complete cure of the disease is at present a question which will be answered conclusively by patients treated in hospital wards. It is in the highest degree probable, as every bacteriologist will understand, that relapses will occur. They must be treated on the principles already laid down by Koch. Koch has said that the action of this remedy consists in the destruction of living tubercular tissue. The destroyed tissue must be thrown off or absorbed.

We might, perhaps, feel uneasy as to the consequences of this, even in some cases of lung tubercle in its early stages, and especially in tubercle affecting the larynx, where the swelling, which is part of the effect of the remedy might conceivably prove dangerous. Experience has, however, shown that, in the considerable number of such cases already treated, no serious risk has arisen. It is a fact that the mucous membrane of the tubercular larynx, while under this treatment, does not swell to such an extent as to interfere very seriously with respiration. Even in advanced cases of lung tubercle, with excavation of considerable portions of lung tissue, there have been no ill effects from the treatment, when it has been conducted with careful attention to the regulation of the dose of the remedy.

The remedy is introduced into the body subcutaneously by means of a syringe which Koch devised for his bacteriological work. (For rapid clinical work it has disadvantages, which can, in my judgment, be avoided by the use of one of the recently perfected hypodermic syringes, without any risk of harm to the patient, if cleanliness be properly attended to. Already in some of the clinics other syringes are in use.—R. W. Philip, M.A., M.D.).

Every day before using the syringe I think it is well to disinfect the metal stem and the indiarubber ball. Alcohol, however, causes cloudiness in the dilutions of the remedy, and therefore it is necessary to get rid of it as much as possible. For that purpose I wash out the syringe with a little distilled water.

The dose of the remedy has been sufficiently well fixed for all practical purposes. In a healthy man 0.25 cc. produces an intense effect. Koch thus describes the symptoms produced by that dose on himself, after it had been injected into his upper arm: "Three to four hours after the injection there came on pain in the limbs, fatigue, inclination to cough, difficulty in breathing, which speedily increased. In the fifth hour an unusually violent attack of shivering followed, which lasted almost an hour. At the same time there were sickness, vomiting, and rise of body temperature up to 39.6° C. (103.3° F.). After twelve hours all these symptoms abated; the temperature fell until next day it was normal, and a feeling of fatigue and pain in the limbs continued for a few days, and for

exactly the same period of time the site of injection remained slightly painful and red."

1 ce. of a 1 per cent. solution—that is to say, a dose of 0·01 ce. of the remedy—is the smallest dose which affects healthy adults, and the symptoms, more or less marked, following its administration are, in the majority of cases, slight pain in the limbs and a sense of transient fatigue. Only a few persons after this dose show a rise of temperature up to not more than about 100° F. The word "reaction" is used to indicate the symptoms, mild or severe, which follow upon the use of the remedy. In non-tuberculous adults there is no real reaction consequent upon the administration of any dose of the remedy less in amount than 0·01 ce.; therefore, the **presence of reaction** in the adult after a dose of less than 0·01 ce. of the remedy shows the **presence of tubercle** in the patient. If in the adult **no reaction** were obtained by any dose short of 0·01 ce., then it would be certain that the case in question was **not** one of **tuberculosis**. This is *a law to which no exception has hitherto to been found*, and it gives the remedy *great diagnostic value*, which, it seems likely, will be one of its most useful clinical applications. The law applies to both man and beast, and to all tubercular conditions. Already cases have occurred in which the presence of tuberculosis was not even suspected, until the remedy was injected and reaction followed.

The dose of the remedy is regulated in tubercular cases by the age and strength of the patient, and by the conditions of his disease. In children and weak people, and in cases of very extensive disease of the lungs, the treatment should begin with the smallest effective dose, which should be very gradually increased. In fairly strong adults with **lupus, joint or gland disease**, and also in cases of **lung tubercle**, where the disease is **slight** in extent, or where the case is doubtful, a full dose of 0·01 ce. may be administered with safety. But in lung disease, however slight or otherwise favourable the case may be, it is well to begin with a much lower dose. The difference in the conduct of the treatment of lung tubercle and of lupus is that the former is treated with small doses daily, and the latter with large doses at intervals of one or two weeks. **Tubercu-**

losis of joints, bones, and glands is treated in the same way as lupus.

A first dose in early cases of lung tubercle in an adult should be either 0·001 cc. or 0·002 cc. If reaction follows this dose, then it should be repeated after the temperature has returned to the normal point. The same dose should be continued in this way until no reaction follows its use. The dose should then be increased by one, or at most two, milligrammes at a time ; each dose being repeated until it is found that no reaction follows its administration, and so on until the dose of 0·01 cc. is reached. The dose of the remedy should never exceed 0·01 cc., except as a test to ascertain whether the utmost limit of benefit to the patient has been secured, and this test should be applied to every case. The duration of the treatment in early cases of lung tubercle Koch states to be, as I have already said, from four to six weeks. If after the administration of test doses of the remedy no evidence of the presence of disease is noticed, then the case, Koch says, may " be pronounced cured." I repeat, this statement refers to early lung tubercle only.

As regards the immunity from tuberculosis which may be enjoyed by the human patient after such a course of treatment, no evidence, so far as I know, has yet been brought forward concerning it in clinical records from hospitals, though the protective power of the remedy has been established as a fact by Koch's experiments as regards beasts. The doses of the remedy are prepared as follows: Two dilutions of the fluid are in general use, a 1 per cent. dilution and a 10 per cent. dilution. The 1 per cent. dilution is prepared by putting 0·5 cc. of the remedy into a glass vessel graduated up to 50 cc. The vessels is then filled up to 50 cc. with distilled water containing $\frac{1}{2}$ per cent. of carbolic acid. One cc. of this solution contains a dose of 0·01 cc. of the remedy. Koch's syringe is graduated in milligrammes up to a capacity of 1 cc. ; therefore, if 1 cc. of this 1 per cent. dilution be placed in that syringe, each marked milligramme of it will contain a dose of the remedy equal to 0·001 cc. The 10 per cent. dilution is used exactly in the same way as the 1 per cent. dilution. Every milligramme of it contains 0·01 of the remedy, and by means of this stronger

dilution, the larger doses may be given, or, by dilution, any less dose that may be needed. The subcutaneous injection of the remedy is made in the skin of the back, between the shoulder-blades and the spine, or near the lumbar part of the spine. These parts are selected for this purpose because they are less sensitive than most parts of the skin, and because absorption takes place very quickly from their neighbourhood. Before giving an injection the skin around the proposed site of puncture should be disinfected by means of a 1 in 40 dilution of carbolic acid. The needle should also previously to its being used be dipped in a 1 in 20 dilution of carbolic acid.

The reaction in tubercular cases consists in a gradual rise of temperature, beginning three to five hours after the injection. In ten to twelve hours it reaches its acme,—namely, a temperature of 102° to 104° F. It may even rise as high as nearly 106° F. Shivering often occurs as the temperature rises, but it is not a constant symptom. Pains in the joints, increase of cough and expectoration, nausea and vomiting, headache, often frontal in position, and great prostration and drowsiness, sometimes deepening into stupor, are the symptoms of the reaction. In one instance a man who was tuberculous continued in a state of stupor for forty-eight hours, after receiving a dose of 0.01 cc. Slight icterus and a general papular eruption, which has been so very well described by Dr. Radcliffe Crocker in his paper in the *Lancet* of Nov. 22nd, are amongst the less frequent symptoms which follow the injection. The fever lasts, as a rule, for from 15 to 24 hours, and is accompanied by an increase in the rate of the pulse and of the respiration. The fever gradually declines, and the temperature falls to subnormal, but often rises again to about 100° F., less or more, and then gradually drops to normal. The patient, as a rule, suffers but little after the fever. (G. A. Heron, M.D., F.R.C.P.).

3. Cantharidin Treatment of Tuberculosis.

Dr. Oscar Liebreich lately discussed, at the Berlin Medical Society, the pharmacological and therapeutical properties of salts of Cinchonidinic Acid. Dr. Paul Heymann, G. Guttmann, and B. Fraenkel related cases in proof of the efficacy of the minimal doses

(averaging two decimilligrammes) of the drug used as subcutaneous injections in cases of tubercular disease. The evidence adduced by these experienced observers is all the more valuable since they have been for the past few months carefully following up the results of Koch's injections, in cases of **laryngeal phthisis** particularly. The local changes and the general improvement ensuing upon the cantharidin injections appear, in the few cases that have been so far treated, to have been very marked, and, what is more to the point, to have been unattended by any of the drawbacks with which the use of "tuberculin" is so often associated. It seems that these pharmacological speculations of Dr. Leibreich are likely to be fruitful in many ways. He selected this substance because of its known remarkable property of exciting exudation from the capillaries. That property, which is patent to all when the skin is subjected to the action of a blister, is doubtless likewise exerted upon internal organs, notably the kidneys and sexual organs, when cantharides is taken internally. Nay, it has been found to produce pulmonary œdema, and Dr. Liebreich said that he had found it recommended (in English literature too) in certain pulmonary diseases. He reasoned then that, since it has some selective property—*e.g.*, a much greater affinity for the renal glomerular capillaries than for the vessels in other parts—it was not unlikely that, in the case of capillaries in a morbidly irritable state, its effects might be exerted by doses quite inadequate to excite transudation in the normal body. As to its applicability to tubercle, he ventured on the further surmise that its action might be an indirectly specific one, since the researches of Buchner and Stern have shown that blood serum has a bactericidal action. Commencing with the greatest caution, and finding that a dose of six decimilligrammes excited hæmaturia in one case, he recommended that no more than one or two decimilligrammes of cantharidin in alkaline solution (one cubic centimetre of which contained two decimilligrammes) should be injected, and that an interval of one day might elapse between the injections. Renal disease is of course a contraindication. Strangury, hæmaturia, and other symptoms were observed by Dr. Heymann in some of his cases, symptoms which soon disappeared on suspending the injections for a short time.

Dr. Liebreich's formula of his cantharidin solution is as follows:—Cantharidin, 0·2 grms. ; potassic hydrate, 0·4 grm. ; water, 20 cub. centimetres. Add water up to 1 litre (1000 cc.) One cub. centimetre contains 0·0002 gramme, or 2 decimilligrammes.

4. **Prussic Acid in Phthisis.**—Dr. Koch's views on the treatment of phthisis pulmonalis have received interesting support from the experience of a chemist, Herr Reuter, made public in April last at the full meeting of the Lower Austrian Industriean Union. Koch, it will be remembered, maintained at the Berlin Congress that among remedies capable of bringing the malady to a standstill the **salts of gold and silver** are of the greatest value, and that among these the first place must be given to "**cyan-gold.**" Reuter, who, as director of great *fabriques* of metallic wares in England and abroad, paid particular attention to those in which the articles in question were galvanically gilded or silvered, observed that in the latter industry the *employés* who had consumptive or tubercular symptoms, some indeed who suffered from hæmoptysis, found marked relief in their work, and continued to improve so rapidly that in a few weeks their return to health was assured. The favourable impression made on Reuter, as to the curative effects of the gold and silver industry on phthisis, he found confirmed by the testimony of *employés* of every age in these establishments—men, young and old, who had the well-known symptoms of pulmonary consumption, even at an advanced stage, rapidly getting well as they continued from week to week at work. Further investigations strengthened that impression still more, till he had satisfied himself that for the disease in question a healing virtue resides in the prussic acid generated particularly in those workshops where "**cyan-metals**" dissolved in "**cyan-kalium**" are used.

5. **Brown-Sequard's Fluid.**—Dr. D. Uspenski recently made some clinical experiments with Brown-Séquard's "emulsion" in the treatment of tuberculosis. He had tried this preparation in eighteen patients in different stages of the disease. Two of them had been quite given up. In one of these the patient was a lad of 18 who had long suffered from mitral insufficiency, and who became the subject of acute phthisis in the beginning of May, 1890. After all other means of

treatment had been tried in vain Uspenski had recourse to injections of Brown-Séquard's fluid. After the first three the general condition and the appetite were greatly improved, and after six injections the patient was able to leave his bed and walk about the room. The treatment was continued with the result that the strength and weight increased, while the temperature gradually fell, and the night sweats diminished. After ten injections the latter ceased altogether, and the patient had so far recovered his strength as to be able to take a long walk in the open air. On June 15th the last injection (the fifteenth) was given, and the patient continued, through the summer, to improve in health and to gain weight (from 122½ lbs. to 148¼ lbs.). The tuberculous process in the lungs was at a standstill. In the other case the patient was a man, aged 28, who developed phthisis after influenza. There was considerable fever, with profuse night sweats. There was infiltration of the right and, to a less extent, of the left apex, and tubercle bacilli were present in the sputum. At the beginning of May injections of Brown-Séquard's fluid were commenced; after the sixth the appetite increased, and after the twelfth the patient's condition was so much improved that he was able to leave his bed. After the eighteenth injection the temperature became normal. There has been no increase of weight, nor is there any perceptible amelioration in the condition of the lung. The patient, however, feels much better. In chronic cases the injections act more rapidly. In twelve such patients there was marked general improvement, with reduction of temperature and diminution of night sweats after from two to four injections. Nine, or, at most twelve, injections usually suffice. Even amid the unfavourable surroundings of a prison infirmary Uspenski obtained good results by this treatment in seven cases. He considers that Brown-Séquard's fluid has a markedly strengthening effect, and is beneficial in all cases of phthisis without exception, whether the patients have any additional treatment or not, and whether they live under favourable conditions or the reverse. The tubercle bacilli do not disappear entirely, even in the most successful cases, but diminish in number in proportion to the extent to which the diseased process recedes. Uspenski says the remedy does not kill the bacilli, but weakens their pathogenic power.

6. Carbon Bisulphide Inhalations.

Dr. Coromilas, of Kalamata, Greece, has made many experiments, which, by the way, are based on the fact that Carbon Bisulphide vapours he noticed to be deadly to Koch's bacillus. In 16 months, 61 cases were treated by the **inhalation, combined with Calcium Phosphate**, administered in the usual way. The results have been 39 radically cured, 4 cured after a second treatment; 12 felt so much improved that they went home, thinking themselves cured; and, lastly, 10, the worst cases, died. *The treatment was employed with equal success by other Greek physicians and notably by Dr. Economopoulo, who thus saved his own brother, aged over 50, who hitherto failed to derive any benefit from all other medicines.*

7. Creasote in Phthisis.

Dr. Robinson publishes a comprehensive and masterly article on the whole subject of the use of Creasote in phthisis. He recommends the inhaler now generally known by his name and several solutions well adapted for use in this inhaler. The solutions employed by him are 3 and their composition is as follows:—

(a.) **Dr. Brunton's Solution** modified by Dr. Robinson: R Iodoformi grs. 24, Creasoti mins. 4, Ol. Eucalypti mins. 8, Chloroformi mins. 48, Alcoholis, Etheris, ââ. fl. oz. $\frac{1}{2}$. M.

(b.) **Dr. Coghill's Solution**:—R Tr. Iodi Ætherialis, Acid Carbolicæ, â â. drs. 2, Creasoti dr. 1, Sp. Vini Rect. ad. oz. 1. M.

(c.) **Dr. Robinson's Own Prescription**:—R Creasoti dr. 1, Alcohol ad oz. $\frac{1}{2}$. M. The inhaler is worn by Dr. Robinson's patients at first for 15 or 20 minutes every 3 hours, and from 10 to 20 drops of the mixture are placed upon the sponge at least 3 times in 24 hours.

(d.) For **internal administration** he employs the following formula which he adopted from Jaccowd and which has come into pretty general use:

R Creasoti mins. 6, Glycerini oz. 1, Spts.
Frumenti (Whisky) ozs. 2. M.

The dose of this prescription generally used is *one teaspoonful* and this is given every 3 hours diluted with 2 parts of water to pre-

vent irritation of the throat and stomach. Dr. Robinson contends that *Creasote should be taken at first at least in small or moderate doses continued a long time and increased very gradually*. His average daily dose is from 3 to 6 mins. and this quantity he administers uninterruptedly for many months.

Dr. Austin Flint uses doses of 3 or 4 drops t. i. d., and inhalations of the Creasote, Chloroform and Alcohol solution already described at first for a few minutes t. i. d. and then for increasing periods even upto 4 or 8 hours a day.

Prof. Sommerhrodt strongly advocates the use of Creasote in heroic doses acting upon the assumption that enough Creasote may be given to so charge the blood with the remedy as to antagonize the development of tubercle bacilli. *Vide* pg. 228-9.

(e.) Dr. Lanisnice claims that **nausea and vomiting from Creasote might be avoided** by the use of the following formula:—

R Creasoti 5 centigrms., Bals. of Peru $7\frac{1}{2}$ decigrms., Norway Pitch $7\frac{1}{2}$ decigrms. M. ft. capsule. Four of these capsules are taken with the meals morning and evening, and the dose gradually increased to 12 daily.

(f.) **Frantzel's Formula** :—R Creasoti mins. 15, Tr. Gent. mins. 6, Sp. Vini Rect. fl. drs. 6, Vini Xerici q. s. ad fl. ozs. 4. M. Sig. $\frac{1}{2}$ oz. t. i. d. with water.

Dr. Von Driver, who used this formula, believed in the heroic method and increased his doses as rapidly as possible until the maximum was reached. The maximum was O. 75 grm. (*i. e.* $11\frac{1}{4}$ grs.).

(g.) **Bouchard's and Gimbert's Formula** :—R Creasoti mins. 31, Tr. Gent. Co. mins. 72, Alcohol drs. 10, Tokay or Malaga wine ozs. 5. M. Dose : dr. 1 to drs. 4. (W. H. Flint, M.D.).

(h.) Dr. James E. Newcomb reports favourably concerning the effects of Creasote in his service at the Rooswelt out-patient department. He administered the creasote by mouth only as in the following formula :—

R Creasoti, Tr. Capsici, â â. drs. 2 to 3, Mucil. Acaciæ oz. $\frac{1}{2}$, Aquæ ad. ozs. 4. M. Sig. dr. 1 well diluted with water after meals.

(i.) Dr. Ruetimeyer uses Creasote in emulsion with **Olive Oil, Almond Oil or Cod Liver Oil** in which form it is *fairly palatable* and causes hardly any indigestion. *Vide* pg. 228 (2.)

8. Guaiacol in Phthisis.

(a.) R Guaiacol drs. 2, Tr. Quiniæ drs. 6, Vin. Malace ozs. 40. M. A tablespoonful at every meal gradually increasing until 3 tablespoonfuls are taken.

(b.) In winter give :—R Guaiacol grs. 40, Ol. Morrhuæ ozs. 6. M. A tablespoonful at each meal.

(c.) R Creasoti drs. 5, Ol. Morrhuæ ozs. 6. M. To be rubbed on the chest, back and axilla before bed time. During the day and night 2 or 3 drops of Creasote inhaled by nasal respirator. *Vide* pg. 759-60.

9. Suboxygenated Air.

It consists in constructing pneumatic chambers, in which Carbonic Acid gas is passed, whereby oxygen is diminished and respiratory movements increased above the normal. This is kept up for 2 hours at a time and repeated 2 or 3 times a day for some months; never less than 2 months. Of 500 cases in the early stage, all recovered and of 1000 cases taken at hazard, 748 recovered favourably; this was tested for 12 years at Madrid. Combining the vapour of Iodine, Iodoform, Chlorine, Sulphurous Acid, Eucalyptol or any other medicated vapour, adds, in some cases, to the efficacy of the suboxygenated air. (Dr. Valenzuela).

10. (a.) R Hydrarg. Perchl. gr. 1, Saturated Solution of Boracic Acid ozs. 6. M. To be used t. i. d. in a steam atomizer for 5 minutes.

(b.) R Chloral Hydrate drs. 4 Divide into charta No. 2. Dissolve one powder in a glass of water and add. oz. 1. of alcohol. With this sponge patients twice a day.

Under this treatment the night-sweats cease, temperature becomes normal; chills stop and patient gains weight. After the patient is able to get around and fever becomes normal, the sponging is to be stopped and the inhalation to be used twice a day. It has been successfully used for a period of 2 years (Dr. O. S. Pressby).

11. R Hydrarg. Biniodidi, Pot. Iodidi, â â. part 1, Aquæ Dist. parts 1000. M.

This is to be employed in the form of a **spray** at first once daily and later as the patients become accustomed to it, twice daily. If in case the spray irritate, reduce the solution one-half in strength without the result being affected, since it is claimed that this proportion of mercury will destroy bacteria in concentration of 1 to 4000. One of the chief conditions of success is to prolong the use of the treatment, which may be carried out for a year or more without evil effect to the patient (Drs. Miguel and Rueff, Germany).

12. Calcii Sulphidi gr. $\frac{1}{2}$ every 2 hours and gradually increased until eructations or gastric irritability shows itself. This is *an indirect method of introducing sulphuretted hydrogen in the blood on the principle of Bergeon's treatment.*

13. Acid Gynocardic, Anilin 48, Chaulmoogra Oil 159, Helenin 324, Hypophosphites, Iodized Glycerine 304, Iodoform 388, Lipanin 465, Menthol 488, Morrhuol, Mullein 499, Ol. Eulachon 521, Pancreatic Emulsion, Pot. Chlorate, Protagon 578-9, Saw Palmetto.

Dietetic Treatment.

1. To induce the individual to take *as much nourishing food as his digestion permits* and to endeavour to *increase the appetite and digestive powers by air and exercise* and sometimes by medicinal substances. 2. To give as much *choice and variety* as can be obtained. 3. *To avoid articles of food or of relish, of inferior nourishing value, if by these the appetite for more necessary articles is diminished or the digestion of latter is disturbed.* Such articles—which are **to be avoided**—are, for instance, **acids, salads and especially uncooked acid fruits, sugar and potatoes**, a list which might be largely increased. *Potatoes ought to be taken only in moderate quantities.* They contain much potash in proportion to soda and experience shows that the **exclusive or even preponderating use of potatoes favours scrofula.** Milk is regarded by the majority of medical men as *one of the best articles of food in the treatment of phthisis.* It contains all that is required by the body and the mineral matters in the best proportion. Always recommend the milk

to be boiled, because by boiling milk, *the fever poisons and the tubercle bacillus from cows and diseased udders are all destroyed* and the milk should be *cow's milk*. It is *less irritating* than other nourishing kinds of food and is more easily digested. In some cases where there is tendency to **diarrhœa or sickness or acidity of the stomach**, it is necessary to dilute it from $\frac{1}{3}$ to $\frac{1}{6}$ th of **lime water** which often exercises a soothing influence on the m. m. of the intestinal canal and may besides help to bring on cretaceous change in caseous deposits. In other cases especially where there is **constipation**, the addition of **Apollinaris or natural Selters or Bilin Water**, is useful ; in others that of barley water ; in others a small quantity of coffee, tea or cocoa renders the milk palatable to persons who have a dislike to the taste of pure milk. In many instances the addition of **Rum or Cognac** promotes the digestibility of milk especially in persons accustomed to stimulating food, including much alcohol, but this addition ought to be made under the guidance of doctor. The quantity of food suitable to different invalids varies very much, indeed in the same person at different periods of the disease and also according to the amount and quality of other food consumed. I generally advise from $1\frac{1}{2}$ to 3 pints in 24 hours but in many cases especially those complicated with **albuminuria** I restrict, sometimes for weeks, almost entirely to milk and milk food. In majority of ordinary cases of phthisis except the very chronic and arrested forms, it is better to take the desirable amount of food in **frequent small meals*** than in 2 or 3 large ones. I am in the habit of recommending a plan of the following kind with many modifications according to circumstances :—

At 7 o'clock or earlier while still in bed, a cup of milk by itself or with a dessert or tablespoonful of cognac or with lime water or with a small quantity of tea or cocoa and a small piece of bread and butter. At 8-30 or 9, after dressing, breakfast or milk, with some slightly stimulating addition, as tea, coffee or cocoa, bread and butter or bacon, ham or fish. At 11 a tumblerful of milk or koumiss or sometimes a cup of broth or beef tea or a sandwich or a glass of wine. At 1 or $1\frac{1}{2}$ a substantial meal of meat or poultry or fish or game, with fresh

* There ought to be four supplementary meals in addition to breakfast, lunch and dinner ; viz. early in the morning between the breakfast and lunch, between lunch and dinner, and at bedtime.

vegetable, some slight pudding or cooked fruit and a glass of wine. At 4 o'clock, a glass of milk or Koumiss or a cup of tea or coffee with much milk and some bread and butter or plain biscuits. At 7 another substantial meal similar to that in the middle of the day. At 9½ or 10, on going to bed, a cup of milk or bread and milk or milk with some farinaceous food, as Hart's, Liebig's, Nestle's or Mellin's. At this time if there are slight sweats, the addition of a tablespoonful of Brandy is very useful.

In cases of considerable pyrexia, it would be injudicious and impossible to give as much solid food as in chronic non-febrile or nearly non-febrile cases. But it is necessary to give as much easily digestible food as the patient can digest. Our aim is to check the waste and to replace the increased waste by food. Here alcohol is of great use. Milk is often not digested in its natural state but tried in peptonized and diluted with pure water, or ærated water or still better with barley water or thin gruel. Chicken broth, veal broth, beef tea and gelatinous substances are in these conditions most useful. In most cases of phthisis it is desirable to introduce into the system a fair amount of fat and this can often be done in the shape of bacon, fresh butter and milk and suet, than in the form of Cod Liver Oil, though the latter too is most useful. There are some popular cures of phthisis into which milk or different kinds of fat, assisted by open air, enter largely. The milk cure in the various mountain districts ; the Koumiss cure in Tartary ; the butter milk cure in German villages ; and in American prairies, bone marrow of the buffalo. All these cures, have 2 points in common : first, food rich in fat and proteinaceous matter and secondly, out-door life.

Alcohol.—In phthisis, especially in the febrile stages, experience has convinced me of its great usefulness in the majority of cases, so long as the Kidneys are sound. It acts as a respiratory food, and limits the waste of tissue. Physicians use it largely. Quantity and quality required vary very much in different cases. In some cases as much as a bottle and even 3 pints, of moderately strong wine or 10 to 12 ounces of cognac or whisky are taken in 24 hours with advantage ; in others scarcely ¼th of that amount, and, again in others, alcohol must be altogether avoided. Alcoholic drinks seem to be especially useful in

those cases where a pretty large quantities can be taken without unpleasant excitement or headache ; but where on the contrary a sense of comfort and increased strength is produced, where appetite and digestion are improved, flatulence and indigestion removed and pyrexia, where it exists, is diminished. Where on the other hand they cause throbbing in the arteries, headache, listlessness, flushing or great excitement or loss of appetite for ordinary foods, they are either unsuitable or can only be taken in small quantities.

Madeira, Marsalla, Sherry, Burgundy, good Claret and some pure Italian and Greek wines are useful in many cases, and not rarely Beer, Cognac and Whisky suitably diluted useful in cases of weakness. In Germany and Austria the stronger Hungarian wines are much liked but the above mentioned will be useful in many cases. (Hermann Weber, M.D.).

2. Cream, Eggs, butter, bacon &c. should be given in moderate and reasonable amount and proper time so as to assist digestion and not overtax the stomach. Owing to the disturbed rest and fatigue which results from the early morning cough, the breakfast is doubtless in many cases, the worst meal and it is then desirable that the patient should take something before dressing to partake of it ; this something to be taken before breakfast is the preparatory rum and milk but it is perhaps in the earlier stages of the disease best avoided. Some warm tea or chocolate with plenty of milk is an excellent substitute and it has the advantage that it seems better to promote that expectoration of the secretion accumulated during sleep which is so desirable. (T. H. Green, M.D.).

LARYNGEAL PHTHISIS.

1. (a.) R Creasoti grm. 1. Sp. Vini Rect. grms. 25, Cocaine centigrms. 20, Glycerine grms. 10, Aquæ grms. 160. M. A spoonful of this solution to be used in a steam spray on retiring to bed for 3 or 4 minutes.

(b.) Every morning give a spray of the following :—

R Zinci Chloridi centigrms. 80, Morphiæ centigrms. 20, Glycerine grms. 10, Aquæ grms. 190.

(c.) When the cough is dry, spasmodic and frequent, replace the above by following :—

R Sodii Bromidi grms. 3, Cocaine centigrms. 30, Glycerine grms. 10, Aquæ grms. 190. Adding *Tr. Aconite* or *Hamamelis*, if there be laryngeal congestion.

2. Creasote 229, Iodol (dusted pure), Iodoform 388, Koch's Remedy, Menthol 488, Resorcine 610, Sanitas Oil 643. (g.)

PITYRIASIS.

1. Of all the various applications recommended for **Pityriasis Versicolor** none succeeds so well as **alkaline pumice stone**, as in the following formula :—

R Soft Soap parts 100, finely powdered pumice parts 50. **M.** Make frictions night and morning.

2. Sulphurous water baths and lotions are also the best means in **P. Versicolor**.

3. In the early stage of **P. Rubra**, *packing in oil*, the use of *diuretics* to relieve the skin hyperæmia, to be followed presently by the exhibition of *ful doses of Ferri Perchl.*, have in the hands of Dr. Tilbury Fox cured most cases.

4. The **P. Rubra** requires, at the onset, antiphlogistic measures. Venesection may even be necessary in adults, with tepid, and at a later period, the alkaline baths. Should it still continue obstinate, the sulphurous water bath as well as the vapour bath must be had recourse to. (A. Tweedy, M.D.)

5. **R** Thymol grs. 20, Glycerini, Sp. Rect., â â. oz. 1, Aquæ Destil. ad. ozs. 16. In pityriasis and certain other forms of scaly cutaneous diseases.

6. Dried branches of **Solanum Dulcamara** made into a decoction (1 to 20) is useful topically and also internally.

7. Acid Chrysoph. 11, Arsenic (I.), Berberis Aquif. (I.) Bhawachee (E.), Cupri Sulph. (E.), Glyc. Boracis, Jaborandi 403, Ol. Pongamia Glabra (E.).

Pityriasis Capitis.—*Vide* pg. 883.

PLEURA, DISEASES OF, PLEURISY (PLEURITIS).

1. The Operative Treatment of Pleuritic Effusions.

Prof. S. Lewaschew points out that the habit of removing large quantities of fluid from the pleural cavity has very frequently been followed by alarming symptoms, all of which can be referred to the inevitable disturbance of the balance of intrathoracic pressure, if nothing be introduced to take the place of the fluid which is withdrawn. Some authorities have laid down positive rules with respect to the amount of fluid that may be withdrawn at one operation, but even in cases where that amount has been very small, the untoward results have not always been absent. It is a common experience in the course of large tapplings that no pain is at first caused, but that after a certain amount of fluid has been withdrawn a cutting pain is complained of, and faintness often supervenes. Dr Lewaschew advocates a method of procedure which he has practised with singular success both in **serous and in purulent effusions**, in cases where adhesions have not taken place. This method was first tried upon the lower animals, and perfection in its application arrived at by that means. It consists in withdrawing a small quantity of the fluid until some uneasiness is felt by the patient, and then injecting, by a reversed action of the aspirator or siphon, an almost equal amount of a carefully-sterilised solution of **sodium chloride**, of a strength of 0.7 per cent., in distilled water. This degree of strength was determined by careful experimentation, and a caution is given against the use of stronger saline solutions. The 0.7 per cent. solution does not materially affect the inflammatory processes, any little reaction observed being favourable rather than the reverse. Its action within the pleura is to restore the balance of pressure, and at the same time to dilute the rest of the fluid, which may be withdrawn and again diluted with the saline solution several times, until very little but the saline is left in the cavity. Absorption of this residue takes place quickly, but the patient's temperature often remains high during the process, even though improvement be taking place in other respects. Professor Lewaschew claims for this method that it does away with the effects of sudden changes of pressure within the pleura ; that it is painless ; that it stops further exudation, and aids

rapid absorption ; that it has proved successful in all cases of simple effusion, where the lung has not been bound down by adhesions ; and finally that success has been obtained in some very prolonged cases where no other treatment has been effective.

2. **Concentrated Solutions of Cathartics.**—Their *modus operandi* in dropsical effusions has already been described at pg. 808 (q. v.). Dr. W. Eggleston administered, in a case of **pleuritic effusion**, 6 drs. of **Magnes. Sulph.** dissolved in 2 tablespoonfuls of water in the morning. The patient was kept without food or liquid for at least 12 hours before the dose, and no water was given afterwards. In two days there was marked diminution in the amount of effusion. The salt operated in $\frac{3}{4}$ hour and produced 8 evacuations. Another dose of the salt, drs. 4, was ordered to be taken the next morning.

Another authority says : “ Magn. Sulph. drs. 2 or 4 dissolved in as small a quantity of warm water as possible should be given twice a day. During treatment the fluids should be restricted—the patient should be actually starved of fluids. Solid food to be given. This is most effective.”

☞ Patients with poor physique are ill suited to this vigorous treatment nor should the prompt use of trocar be neglected where dyspnoea exists.

3. R Hydr. Subchl. gr. 1, Antim. Tart. gr. $\frac{1}{4}$. M. ft. pil. Or,
R Hydr. Subchl. gr. 1, Antim. Tart. gr. $\frac{1}{4}$, Opii gr. $\frac{1}{2}$. M. ft. pil.

One repeated according to the urgency of the symptoms. In sthenic inflammations of the serous membranes as pleurisy &c.

4. F. Peritonitis.

5. **External Measures.**—(a.) In acute forms large and very hot and moist linseed **poultices**, covered with the exts. of poppies and belladonna (Ext. Bellad. grs. 120, Ext. Papav. ozs. 2, Syr. Papav. fl. oz. 1. M.) give greater relief than any other measures ; or the use of poppy-head **fomentations** may be recommended, provided they can be sedulously applied. **Sinapisms** or **turpentine stupes** are preferred by some, but they have often the disadvantage of irritating the patient.

(b.) When the pain is very severe the application of **leeches** ($\frac{1}{2}$ doz.) will possibly give relief sooner than any other means, by unloading the congested vessels. **Strapping** of the chest with adhesive plaster from mid-spine to mid-sternum on the affected side produces relief from pain by lessening the movements of the chest. The application of a fine **flannel bandage** round the chest may sometimes be useful by lessening the movements of the chest. (Dr. Tanner).

(c.) Circumscribed pleurisies may sometimes be removed by **cupping or leeching** only.

(d.) After the inflammatory fever has been reduced, the most effectual external remedies are **blisters**, which should be used large, and not left on too long ; from 6 to 8 hours is generally time enough to make them vesicate without inflaming the tissues too deeply, or irritating the system by the absorption of their serous discharge. Where the effusion is abundant, a succession of blisters will be necessary ; or they may be varied by a suppurating counter-irritant, such as the **tartar-emetic ointment or solution**. Blisters are also useful in chronic forms.

(e.) Other remedies in subacute and chronic forms are **Lin. or Ung. Iodini, Empl. Ammoniac. c. Hydrargyro, &c.**

6. Abscess Root. *Aconite*, *Autimony* 55, *Antipyrin* 58, *Apocyn. Can.* 65, *Asclep. Tub.* 75, *Bryonia Alba* 120, *Colocynth*, *Crawley Root*, *Creasote* 229, *Digitalis*, *Hydrochinon* 352, *Iodides* and *Iodine*, *Jaborandi* 403, *Opium*, *Phenacetin*, *Pilocarpine* 408, *Quebracho* 590, *Squill*, *Veratrum*.

EMPYEMA.

The Surgical Treatment.—During the last 18 months Dr. James A. Goggana had treated six cases of empyema which had developed in the wake of pneumonia, all of which had gone on to perfect recovery. The patients had varied in age from three to thirty-five years. Surgical treatment was the one which had been the most successfully employed. Spontaneous cures, he said, were rare—so rare that surgical interference was the rule. There were many methods of operating for the removal of pus from the pleural cavity, but they might be classified under two general headings : 1. The closed method,

which consisted in removing the pus by simple puncture with some kind of trocar or modern aspirator, and allowing the puncture to heal at once. 2. The open method, which consisted in making an incision more or less free with the introduction of some kind of drainage tubes to maintain the perfect evacuation of the fluid, and admit of medicated washings, and to promote free ingress and egress of air that had been passed through an antiseptic dressing. The surgical treatment, then, being an absolute necessity, the importance of making the diagnosis certain by resorting to exploratory puncture with a hypodermic syringe could not be overestimated. The patients and friends could be assured that no evil results could come from this procedure, and that the prognosis positively depended upon this means of settling the diagnosis.

Dr. G. Bülow raises the question of the **drainage treatment of empyema**, and makes an appeal for **siphonage** as opposed to simple incision or resection of ribs. Siphonage has got into disrepute with certain authorities, not because of its own defects, but because it has not been properly applied. Several cases are quoted to show the kind of results that may be obtained by means of siphonage if used carefully, one of which illustrates two facts of considerable importance. It proves conclusively that the lessening of the pressure within the pleura is an active factor in the re-expansion of the lung, and also that a lung is still capable of being thus re-expanded after having been subjected to pressure and consequent inactivity for a period of fifteen months. The application of siphonage after the chest has already been opened and drained by simple incision is also proved to have been successful in aiding the re-expansion of the compressed lung. He advises that the skin should be nicked with a scalpel before the introduction of the trochar, and that a tube should be passed in through the cannula, the latter being withdrawn over it. The tube being then firmly secured to the side and sealed to prevent the entry of air, the slow escape of the fluid through a siphon attached to the tube is followed by a corresponding expansion of the lung. This result is, of course, modified by the adhesive and other changes that may have taken place in the pleural layers, but it is claimed that in such cases expansion is equally impossible under all forms of treatment. The possible blocking of the tube by coagulating fibrin, etc. is not regarded as a serious defect in this

system of drainage, as it can generally be got over without difficulty. Nor is the nipping of the tube by the ribs of healing tissue a matter of importance. When re-expansion has taken place to a considerable extent, the siphon arrangement may be discontinued and a short tube left in guarded at its orifice with a valvular covering of goldbeater's skin, to permit the exist of fluid but not the entry of air. As a general guiding principle of treatment, Dr. Bülau maintains that if the same result can be got by simple means, such as siphonage, the more serious measure of resection of ribs cannot be justified until other means have failed.

Solution of Hydrogen Peroxide may be used as an antiseptic injection after the removal of pus in empyema. *Vide* pg. 354 (2).

Vide Pleurisy (1).

PLEURODYNIA (INTERCOSTAL MYALGIA).

1. F. 2, 6, 9, 14, pg. 1064-5.
2. *Glycerole of Chloral and Camphor* 134, *Menthol* 490 (6.), Pot. Iodide, Quinine, and all remedies mentioned under **Myalgia**. pg. 1059.

PNEUMONIA.

1. Surgeon E. Harold Brown, Aurangabad, gives the following exhaustive and highly instructive description of the treatment adopted by him in 36 cases of Acute Croupous Pneumonia that occurred in his practice between December 1888 and March 1890 :—

Local Blisters were not applied in any case, but **fomentations or poultices** were always employed. In many instances where there was great pain, **dry cupping** produced marked relief.

Venesection was not practised, as it did not seem to be indicated in any particular case ; though it would have been resorted to had occasion demanded.

In a few cases where severe pain was due to pleurisy, **strapping** of the chest with adhesive plaster from mid-spine to mid-sternum on the affected side produced relief.

Nutrient enemata were given in one case which eventually recovered. It was always carefully arranged that patients should receive their nourishment, as well as medicine, during the night. It was insisted on in every case.

Medicinal Treatment.—Whenever distressing cough was a troublesome symptom **inhalations** were employed, generally, with great effect either steam alone being used, or the vapour of terebene, eucalyptus, creasote or conium.

The patient on admission was clothed with flannel, put to bed and kept in the recumbent posture, not being permitted to sit up. If the bowels were constipated, a purge of jalap was administered, and the following mixture was generally given :—

R Liq. Ammon. Acet. oz. 1, Tr. Digitalis dr. 1, Vin. Ipecac. drs.

1½, Ammon. Carb. dr. ½, Aquæ ad ozs. 6. oz. 1 every 4 hours.

If the pulse showed any tendency to dicrotism the dose of Digitalis was always increased, as much as 20 mins. of the tincture being given every fourth hour throughout the day ; nor did the drug ever produce any ill effects, its so-called cumulative action not being observed in any instance. Whenever there were signs of the respiration becoming embarrassed **strychnine** was added to the mixture, and its power as a respiratory stimulant was often well marked. Besides its stimulant action on the respiratory centre it undoubtedly acted as an expectorant as well, and I have frequently employed it of late in the treatment of bronchitis, both in acute and chronic cases. An improvement in many of the cases under notice dated from the time when strychnine was added to the mixture. After the occurrence of crisis, the diaphoretic element in the treatment was generally omitted, and the dose of digitalis reduced, **senega** being added : and still later, the treatment was changed to **nitro-muriatic acid and chinchona**. Finally, when the tongue had thoroughly cleaned and the bowels were acting freely, the milder preparations of **iron** were administered until the patient's discharge from hospital. In those cases in which the sputa were inordinately viscid, so that expectoration was extremely difficult the exhibition of **chloride of ammonia** had a notable effect in increasing secretion and assisting expectoration. **Quinine** in 5 or 10 grain doses

was given in the majority of cases early in the morning, and was invariably employed when the temperature chart showed marked remissions or intermissions. But it produced no lasting effect, as the evening temperature generally rose to its former maximum, despite the administration of quinine. In some cases, it had to be stopped in consequence of the production of distressing cinchonism. The first 15 cases were treated with **antipyrin** in 10 grain doses whenever the temperature reached 103·5; the result was favourable in the majority, but it produced much depression in three instances, and has been abandoned in favour of **Phenacetin** which in a similar dose has never failed to effect a marked reduction in the temperature, nor has it given rise to any unpleasant symptoms in a single case.

Alcohol was given freely whenever indicated, that is, when nervous symptoms were prominent, indicated by restlessness and delirium with a dry tongue, the skin at the same time being unperspirable and the pulse feeble. It was given in quantities varying from 2 to 8 ounces per diem with most encouraging results, quelling delirium, moistening the tongue and skin and producing sleep.

Brandy was the form in which it was usually administered, and it was generally given with milk, repeatedly, and in small quantities except at 9 p. m., when an ounce was often given in 3 ozs. of milk, this amount frequently producing some hours' sound sleep. In the 3 fatal cases, which were characterized by the occurrence of the "typhoid state"—dry tongue with sordes; low, muttering delirium and apathy. Turpentine was given in 20 minim doses, but the course of the disease could not be stemmed. This drying was also given in five other cases and acted as an efficient nervine and general stimulant. It has a marked effect in cases where the sputa are like prune-juice, but none of these have occurred in my practice of late.

Diet.—This was limited to fluids in all cases, sago, arrowroot or cornflour with milk being given repeatedly, and in small quantities, during the acute stage of the disease, while mutton broth and eggs were added after the cessation of pyrexia.

Remarks.—The low mortality in the series of cases recorded 8·3 per cent. is very satisfactory. The natural tendency of pneumonia, in the majority of cases, is towards recovery, but the death-rate from this disease is seldom under 10 per cent. in India; so that a portion of the success can fairly be claimed for the mode of treatment adopted, in this being included both the dietetic and medicinal treatment. There have been no deaths amongst the last twenty cases under my care, and the 3 that occurred in the first 16 were among men who had recently returned from active service in Burma, where they had suffered severely from fever and dysentery. Besides the cases referred to, I have seen a number in consultation, and, during the last twelve months, have not heard of a single fatal instance when the treatment laid down has been carefully carried out. My hospital assistants have repeatedly asked me to see cases of pneumonia with them, and now invariably adopt my plan of treatment. One of them has now treated 16, another 14, and a third, 4, without a single death; or if our cases are taken together, there have been 70 treated with 3 deaths, a mortality of 4·28 per cent. Of course, the treatment indicated is laid down on broad lines, and every case should be treated on its own merits due allowance being made for individual peculiarities. There are some facts, however, which my experience of pneumonia has taught me one of which is the **danger of administering opium in any form in this disease.** The tendency of the affection, if it be at all a serious case, is to cause death by failure of respiration; hence it is, physiologically wrong to administer opium, and experience confirms the truth of this statement. Accordingly, I never allow opium to be given before the crisis as alcohol acts as an efficient hypnotic in many cases, while **bromide of ammonium** can be given if the latter fails. Again, antiphlogistic treatment is seldom needed, as the native of India runs down so rapidly when attacked by an acute disease that all our efforts should be directed towards sustaining and stimulating his powers rather than to depressing them by antimony and calomel.

2. **Ethyl Iodide by inhalation** is administered by Dr. Bartholow as a *specific* in the treatment of Pneumonia. The manner

of conducting the inhalation consisted in dropping the requisite dose (mins. 20 to 30) on a folded handkerchief lightly laid over the mouth and nose, by the patient if able to do so, or by the nurse if necessary. No complaint was made of the action except *some dizziness*, and this occurred in a few only. *As full an inspiration as the patient can make is then practised*, and the vapour, thoroughly diffused through the air, glides into the ultimate air-cells, whence, also, it passes into the blood. The influence exerted by it on the cough, the laboured breathing and general *malaise* is a remarkable fact. It has the *signal advantage that no apparatus is required, it vaporizes at ordinary temperature, it causes no irritation of the m. m., and it does not act as an anæsthetic.* The physiological actions of Ethyl Iodide are *antiseptic and depurative or eliminant.* Although as an antiseptic it does not stand very high, the author maintains that its effect is an example of the parasiticide effect exerted by weaker antiseptics against the most resistant microbes.

Calomel is another remedy which he has found of exceptional value, but it *must be given judiciously.* 3 grs. at a dose, given 2 or 3 times at the outset, have proved sufficient. It *relieves the biliousness present in all cases of true croupous pneumonia, diminishes the fever, and acts as a diaphoretic.* This effect he attributes to its action on the liver.

When **delirium** is present, he gives **Chloral Hydrate**, and he strongly insists on the desirability of forcing food on the patient. He urges that small quantities only of suitable nutritive fluids should be given not oftener than every 3 or 4 hours.

3. **Aconite** is indicated only during its early stage, when it prevents the activity of the circulation from producing congestion of the pulmonary tissues. *It is contraindicated during the stage of grey hepatization.* Drop doses every hour are usually given.

4. **Antipyrin in Catarrhal or Croupous Pneumonia of children** is useful near the onset of the attack when temperature runs above 104° , inducing symptoms of nervous irritation, indicating a tendency to convulsive seizures. Doses : $2\frac{1}{2}$ grs. every hour, for four doses, if possible towards evening. (Richard Neale, M.D.).

5. Antimony 56, Antipyrin 58, *Caffeine Sod. Salicyl.* 129, *Convallaria* 221, *Ergot* 244, *Eucalyptus* 258, *Eucalyptine* 260, Hydrogen Peroxide 356, Iodine, Iodides, Iodoform (for caseous broncho-pneumonia) 387, Lobelia, *Nux Vom.* 513, Phosphorus, *Phenacetin* 555, *Quebracho* 590, Sanitas Oil 643, *Sanguinaria* 637, *Stillingia*, *Strophanthus* 689, *Serpentary*, *Veratrum* 719, *Yerba Santa* 743.

PREPUCE, ŒDEMA OF,

For several years past Dr. J. G. Tapper has been treating very successfully the great œdema and infiltration attending many cases of phimosis and paraphimosis as a result of congenital or specific causes. He saturates a given quantity of absorbent cotton with pure **Glycerine** in which **Corrosive Sublimate** is dissolved in proportions varying from 1 in 1,000 to 1 in 5,000 according to amount of foetor present; or in place of the Corr. Subl., **Iodoform**, **Carbolic Acid** or any antiseptic agent preferred may be used. With the cotton so charged, he completely encircles the organ so far as it is involved. Over this a large **rubber condom** is drawn, which is then suspended from an abdominal band. This dressing is to be repeated every 6 hours until œdema disappears. In 12 to 20 hours prepuce becomes pale and shrivelled. If ulcers are present, they are also discovered to have taken a healthy action.

PROLAPSUS.

Prolapsus Ani.

1. **Ext. Nuc. Vom.** is employed with success for the last 10 years in the treatment of **prolapsus of the rectum**, not only in children but even in adults in whom this condition had been neglected and had passed to the chronic stage. It is administered in a dose of $\frac{3}{4}$ to 1 gr. dissolved in an ordinary tumblerful of water, of which 7, 8, or 10 drops are taken every 4 hours. M. Schwartz claims that in 24 hours the prolapsus will have disappeared. For children the dose is 5 drops and for infants, upto 2 years of age 2 to 3 drops. In order to prevent recurrence he advises the continuance of this medicine, in 2 doses daily, for a week after the cure.

If the *prolapsus* is of long standing and does not yield to this treatment he adds to the above 60 grs. of **Ext. Krameriæ**.

2. **An hypodermic injection of $\frac{1}{4}$ gr. of Strychnia** for an adult is made by inserting the needle into the cellular tissue parallel to the rectum and about $\frac{3}{4}$ of an inch from the anus. The operation is repeated every 48 hours until complete recovery takes place and from 4 to 8 injections are needed. The pain is not severe and no abscess is found to result from the injection.

3. R Ext. Krameriæ grs. 8, Morphiæ gr. 1/10, Stearine grs. 10. M. ft. suppositorium.

4. (Ind.) R Cort. et Flor. Punicæ Granati â â. 6, Gallæ 5, Plumbi Carb., Acaciæ Arab. (ext. of the pods), â â. 4, Alumen 3, parts. Mix, make a powder and incorporate either with ghee or butter and apply.

5. (Sp.) (Ind.) Dry hot fomentations with **Cannab. Ind.** herb over the prolapse are employed by the natives with unfailing success after all other remedies have failed.

6. F. 21, pg. 906.

7. Ergotine 243, Gum. Rubr. 268 (6.), Hamamelis (I. and E.), Mangifera Ind. 478, Phytolacca 565, Rhus Aromatica.

Prolapsus Uteri et Vaginæ.

Æsculus Glabra, Aletris 38, Caulocorea 919, Dec. Quercus Cort. (injection,) Gum Rubr. 268, Hamamelis, Mangifera Ind. 478, Pulsatilla 562, Rhus Aro.

PROSTATITIS AND PROSTATORRHŒA.

1. F. 4, Enuresis ; F. 2, Nocturnal Emissions.

2. Atropine, Bromide of Potassium, Buchu, Camph. Bromide, Collinsonia 211, Damiana 233, Kava-Kava 437, Manzanita 478, Salix Nigra 629, Uva Ursi. *Vide* **Spermatorrhœa and Impotence.**

HYPERTROPHY OF THE PROSTATE.

Ergotine 243, Kava-Kava 437, Damiana 233, Saw Palmetto (also for atrophy) 651.

PRURIGO (PRURITUS).

Different Forms of General Pruritus.

1. (Sp.) **Veratria**.—The incessant suffering which some women undergo at the period of **menopause** is well known. Whether it arises from the presence of Prurigo, Urticaria, Eczema, Herpes or whether it exists without any eruption at all. In this *Veratria is by far the most efficacious*. (When the **pruritus is localized** at groins, armpits, walls of abdomen or between ears, **gentle friction** night and morning with an ointment of Lard 30 parts and Veratria $\frac{1}{4}$ part will give relief.)

When **pruritus is generalized**, then give **internally**, Veratria 2 centigrms. made into 10 pills with liquorice powder; 2 to 6 pills to be taken daily, either $\frac{1}{2}$ hour before or 3 hours after meals; only one should be taken at a time and an additional one being given each successive day until the maximum of 6 is allowed.

In pruritus occurring about the time of menopause Cheron also recommends the use of Veratrine internally and externally, giving from 2 to 6 pills daily, each containing $\frac{1}{120}$ gr. Externally, he uses an ointment containing from 2 to 3 grs. of Veratrine to 1 oz. of simple ointment.

2. (Sp.) **Sodii Salicylas**.—Dr. Wertheimer advises the treatment of **general pruritus** by means of a three-per-cent. solution of sodium salicylate, in doses of a tablespoonful thrice daily. This plan of treatment, he says, may be continued for some time, in the confident belief that it will not only promptly moderate the unpleasant pruritic symptoms, but also radically remove the underlying disease.

3. (Sp.) **Juniper Leaves Vapor**.—The patient is inclosed as for an ordinary mineral vapour bath, and beneath him, with proper precautions against the blaze which may ensue, is placed a pan of live coals, upon which the juniper leaves have been thrown. If not freshly picked, the needles should be damped with water. The patient is to remain exposed to the vapour for 20 or 30 minutes, generally on every second day. In **Prurigo** the remedy is immediately effective, and many cases have, after treatment in hospital

by this means, been discharged cured. The most marked effects were obtained in bad cases of **Chronic Urticaria and Pruritus**.

4. **Spray**.—In generalized pruritus Dr. Hardaway had good results from spraying on a lotion of the following kind :
Acid Carbolic drs. 3—4, Glycerine oz. 1, Aquæ 0.1.
 After the bottle of the atomizer has been filled, he sometimes directs the patient to add from 5—10 drops of **Ol. Menthæ Pip.** In many instances the *spray is far superior to mopping on lotions with a sponge or rag, being neater and less troublesome, getting the remedy more evenly and uniformly applied over the surface and usually giving more speedy relief.*

5. (Sp.) (a.) Cases of **Pruritus Senilis** are often the subjects of **gouty diathesis**, the urine being acid with much uric acid and urates or it may be hyperæsthesia with skin atrophy. In either case an inunction nightly (preceded by tepid sponging) with the following is found useful for relieving the intense itching :—

R Chloroformi, Liq. Plumbi Subacet. â â. drs. 2, Camphoræ P_v.,
 Morph. Acet. â â. grs. 20, White Precipitate grs. 7—10,
 Spermaceti ozs. 2. M.

No flannel to be worn next to the skin. A nightly draught of **Sod. Bromide 20—60 grs.** with **Tr. of Hops dr. 1** to be given. **Alkaline drinks** with **nervine tonics** should be given in the day, a change in the tonic being made every few weeks.

(b.) Balmano Squire has found the following ointment very successful in treating troublesome **Prurigo Senilis** :—

R Ol. Staphisagriæ dr. 1, Adepis drs. 7. M.

6. (Sp.) R Camphor dr. $\frac{1}{2}$ —1, Alcohol oz. 1, Borate of Soda grs. 40, Rose Water ozs. 8. M. Apply with soft cloth or sponge to parts t. i. d. For itching in **Pruritus, Eczema and Erythema**. R. W. St. Clair, M. D., has used the above many times when all other remedies had failed to give relief, with such good results it has become a favourite with him.

7. R Liq. Arsenic mins. 5, Sodii Bromidi grs. 10—20, Aquæ oz. 1. M. To be given t. i. d. in **old standing cases of pruritus**.

8. Dr. Duhring's formulæ employed as antipruritics :—

- (a.) R Acid Carbol. dr. $\frac{1}{2}$ —1, Potassæ dr. $\frac{1}{2}$, Aquæ ozs. 4. To be used diluted with water. Thymole may be used alone similarly or combined with Carbolic Acid.
 - (b.) R Hydrarg. Perchl. grs. 8, Alcohol drs. 4, Aquæ ozs. $3\frac{1}{2}$. Use diluted.
 - (c.) R Ess. Menthæ Pip. drs. 4, Glycerine drs. 4.
 - (d.) R Acid Hydrocyn. Dil. dr. 1—drs. 4, Aquæ oz. 1.
 - (e.) R Sod. Hyposulphis dr. 1, Aquæ oz. 1.
 - (f.) R Boracis drs. 2, Glycerine drs. 4, Sp. Campharæ oz. 1, Aquæ Rosæ ozs $6\frac{1}{2}$
 - (g.) R Fol. Bellad., Fol. Hyoscy., â â. drs. 2, Fol. Aconiti dr. $\frac{1}{2}$, Acid Acetic oz. 1. To be used diluted with water dr. 1 to the oz. 1.
 - (h.) R Camphor dr. 1, Chloral dr. 1, Ung. Aquæ Rosæ oz. 1. M.
9. (Sp.) R Atropiæ Sulph. gr. 1, Boracis grs. 120, Glycerini oz. $\frac{1}{2}$, Acid Hydrocyan. Dil. dr. 1, Aquæ Flor. Aurantii ozs. 2, Aquæ ad ozs. 12. M. Useful to allay itching, &c.
- 10. R Carbolic Glycerine (*i. e.*, 1 part Carbolic in 2 parts pure Glycerine) ozs. 2, Liq. Morph. Acet. ozs. 2, Aquæ Rosæ ozs. 4. M. ft. lotio. For prurigo (Dr. A. W. Edis).
 - 11. R Pixene drs. 2, Glycerini drs. 4, Aquæ ozs. 6. M. It produces at once a soothing and curative effect in pruritus.
 - 12. R Acidi Hydrocyan. Dil. drs. 3, Plumbi Acet. grs. 60, Spt. Rectif. fl. oz. 1, Aquæ Sambuci ad. fl. ozs. 8. M. In prurigo, impetigo, &c.
 - 13. R Liq. Ammoniæ dr. 1, Alcohol Camphoratæ mins. 12, Sodii Chloridi dr. $\frac{1}{2}$, Aquæ ozs. $2\frac{1}{2}$. M. To be rubbed t. i. d. on the itching parts.
 - 14. R Hydrarg. Perchl. grs. 3, Acid Hydrocyan. Dil. fl. drs. 2, Mist. Amygd. ad. fl. ozs. 8. M. To check irritation in prurigo and other skin diseases of limited extent.

Prurigo Scroti.

1. (Sp.) The experience of T. G. Stephens, M.D., has been more extensive in **Prurigo Scroti** than in any other form of prurigo. He notes three cases, which have been in his care, sufficient time intervening since the treatment to show that the cases are permanently cured.

CASE 1.—18 years of age ; healthy and of good constitution ; the skin on the scrotum was thick, dry, rugous, fissured, and at times the itching was almost beyond toleration, the patient being unable to restrain from scratching until the skin was so lacerated as to produce bleeding. The patient had been under treatment for months with but temporary relief. The following was the treatment adopted :—

Ordered the *scrotum well bathed in strong, hot soap-suds*, followed by an *emollient poultice*, composed of *wheat bran and milk*, covering the entire *bag*, which was to remain on for several hours, then removing and bathing the parts thoroughly with a weak solution of **Borax**. After drying well, the following was used each night after sponging with the alkaline solution :

R Ammon. Ichthyolate drs. 2, Lanoline oz. 1, Cocainæ Hydrochl. grs. 5, Aquæ Ferv. fl. drs. 2. M. ft. ungt.

The patient made a quick and perfect recovery.

CASE 2.—23 years of age, healthy ; had been suffering from an intense prurigo, or itching of the scrotum, for months ; had used solutions of borax, soda, alum, morphine, corr. subl., &c., all giving temporary relief, but the attacks were still as frequent as ever, and, more distressing. He ordered ablutions and poultices, the same as in Case, 1, giving him at the same time a two-ounce vial containing 2 drs. of Ichthyol, directing him to have the vial filled with equal parts of Lanoline and warm water, and anoint with it each night before retiring. In about 3 weeks he called at his office and said that he did not go by his directions, but used the medicine straight, putting it all on the first night, and “ I tell you, it was a hot dose ; took skin and disease both off clean.”

2. Application of **Limonis Succus** is useful in pruritus scroti.

Pruritus Podicis (Ani) and P. Pudendi (Vulvæ.)

1. Some cases of the pruritus of the vulva and anus are of very obscure origin. Neither local mischief, intestinal, vaginal, hepatic, renal, neurotic, or other disorders can be made to account for them. Dr. Brown-Séquard believes that coffee may have something to do with the production of condition in some cases, since he has seen relief follow the removal of **Coffee** from the dietary in two instances.

2. (Sp.) R Camphor, Chloral Hydrate, â â dr. $\frac{1}{2}$, Ung. Petrolei drs. 7. M. Apply frequently. This ointment has been found useful in relieving obstinate cases of **Pruritus Ani** in which the whole array of ordinary remedies had failed.

3. (Sp.) Vinolia is a very useful agent for **P. Ani**. Recently it succeeded in an obstinate case, where all remedies failed, including Menthol and Cocaine.

4. R Acid Carbol. grs. 20, Tr. Opii drs. 4, Acid Hydrocyan. Dil. drs. 2, Glycerine drs. 4, Aquæ ad ozs. 6. M. Soak a pledget of cotton in this and pass into anus leaving until the next defæcation, when it is to be reapplied. For **P. Ani**.

5. R Liq. Ammon. Acet. fl. oz. 1, A. Hydrocyan. Dil. fl. drs. $1\frac{1}{2}$, Inf. Tabaci (made with 60 grs. of Bird's eye tobacco) ad fl. ozs. 8. M. To be sponged twice or thrice daily over the seat of irritation. In **pruritus** about the **anus, vulva, &c.**

6. (Sp.) R Cocainæ grs. 15, Lanoline drs. 4, Aquæ Dest. q. s. M. To be used every night and Lotio Hydrarg. Nigra to be applied in the morning after bathing. This is best and succeeds after failure of other so called remedies for **P. Vulvæ**.

7. (Sp.) Dr. H. Z. Gill, says that in cases of **pruritus vulvæ**, whatever the cause may be, the **Nitrate of Alumina** has given more satisfaction than any other remedy or combination; he has prescribed it in a number of cases. The form in which he has used it is 4 to 6 grs. to 1 oz. of soft water, as a **vaginal injection, or external wash**. He ordinarily directs the patient to take a teaspoonful of the powder, put into a pint or pint and a half of soft water, and use as a wash or vaginal injection once, or if necessary, twice a day. In hot weather it may be needed twice a day.

8. R Bism. Subnitr. drs. 2, Morph. Hydrochl. grs. 2, Vaselini oz.

1. M. **In irritable Eczema and P. Ani.**

9. Hydrarg. Perchl. grs. 10, Ammon. Chloridi grs. 60, Acid Hydrocyan. Dil. mins. 100, Liq. Morph. Hydrochl. fl. ozs. 2. M. One teaspoonful to be added to a wineglassful of water to form a lotion. **In pruritus of the vulva or anus.**

10. A saturated solution of **Boric Acid** is very efficacious for **P. Vulvæ**. It can be prepared as follows :—Acid Boric 120, Calcined Magnesia 10, Aquæ Dest. 750, parts. M.

11. R Chloroformi drs. 2, Glycerini drs. 4, Adepis ozs. $1\frac{1}{2}$. M. For **P. Vulvæ**.

12. In **pregnant women** when pruritus is associated with **apthous ulceration** and the **oidium albicans** is present &c. the following formulæ are useful ; they should be injected into the vagina :—

(a.) R Acid Sulphurosi drs. 4, Aquæ or Emulsio Amygd. ozs. 10. M. (b) R Pot. Bicarbon. drs. 2, Aquæ ozs. 10. M.

13. R Cretæ Gallicæ, Cretæ Prep., Calaminæ Pv., â â. oz. 1, Acid Carbol. dr. $\frac{1}{2}$ to 1, Ol. Rosæ vel Ol. Eucalypti q. s. M. For **Prurigo Muliebris**.

14. Argenti Nitr. grs. 2, Aquæ oz. 1. M. For **P. Pudendi**.

Other Formulæ and Remedies for all the aforesaid forms of Pruritus or Prurigo are :—F. 2, pg. 915 ; F. 8 (b.) pg. 927 ; F. 1, Fissures ; F. 4, pg. 1046 ; F. 4, pg. 1052.

Boroglyceride Soap 891, Cocaine 192 (c.), Creasote, Cupri Sulph. gr. 2 ad. oz. 1 (pruritus genitalium), Jaborandi 403, Menthol 491, Oleat. Argenti 516, Ol. Menthæ Pip. 523, Quinine 597 (5.), Sanitas Oil 648, Sublimate Soap 892.

PSORIASIS.

1. (Sp.) **Huile De Cade**.—(a) R Huile De Cade, Glycerini Amyli â â. ozs. 5, Sapo Mollis drs. 6, Ol. Citronelle q. s. M.

Rub the soft soap and huile de cade together, and when fully incorporated pour from mortar into convenient vessel. Replace this

in mortar with the glycerine amyl, and rub slowly down until quite smooth ; then add ol. citronelle q. s. It is probable that some of the huile de cade will separate, but once a smooth mixture has been obtained stirring up with a stick will bring it all right. This liniment is applied without much friction every night and a flannel night-dress worn over the part, and washed off in the morning in lukewarm bath, using Wright's coal-tar soap. (W. Bull, F.R.C.S.).

(b.) Or well swab the affected parts with an **undiluted Oil of Cade** (Huile de Cade) once daily for at least a week ; after which if the application be rather painful, it must be discontinued for a couple of days and then reapplied. If the parts are bathed in warm water before applying Oil of Cade, its action is more rapid.

Internally give **McDade's Mixture**. This treatment is effective for **inveterate cases of psoriasis**. *Vide* pg. 520.

2. (Sp.) **Acid Chrysophanic**. (a.) The favourite prescription of Mr. Jonathan Hutchinson for psoriasis is :

R Acid Chrysophan grs. 10, Liq. Carbonis Deterg. mins. 10, Hydr. Amm. Chlorid. grs. 10, Adep. Benzoat. oz. 1. M. ft. ungt.

At night the patient should wash the diseased surfaces free from all scales ; then, standing before a fire, rub on the ointment, devoting, if possible, half an hour to the operation. This proportion of Chrysophanic Acid is not irritating, and stains the linen but slightly.

(b.) R Acid Chrysophan. 1, Gutta Percha 1, Chloroform 8, parts. Dissolve, mix and apply. For psoriasis and chronic eczema.

3. **Chrysarobin**.—(a.) R Chrysarobin grs. 40, Acid Salicyl. grs. 16, Ichthyol grs. 40, Vaseline ozs. 1½. M. ft. ungt. (Dr. Unna).

(b.) R Chrysarobin 10, A. Salicyl. 10, Ether 15, Collodion Flex. 100, parts. M. ft. pigment. Best application for psoriasis. *Vide* pg. 171.

4. (Sp.) **Acid Pyrogallic**.—*Vide* F. 13, pg. 928.

5. (Sp.) **Aristol**.—R Aristol grms. 10, Ol Olivæ grms. 20, Lanolin grms. 70. M. *Vide* pg. 754 (2).

6. (Sp.) **Hydroxylamin.**—It is cheap and does not irritate. It is best to begin with weak solution (1 : 500) and to increase the strength. It does not stain and works as quickly as the older remedies.

7. **Mercury.**—Dr. E. D. Mapother recently read a paper on the treatment of psoriasis by mercury. The author advanced much evidence in favour of the parasitic nature of the disease, and against the supposition that it was hereditary. It was not purely epiphytic, the microbe being distributed with the blood, very often symmetrically. All drugs which had been employed successfully for internal or external treatment were parasiticides, and mercury was by far the most reliable, and relapses were much less frequent after its prolonged administration. Hospital patients he had usually treated by inunction with mercurial ointment, but in private practice the white precipitate ointment, together with the internal use of blue pill or the protoiodide, was more suitable. This course was followed for about eight weeks, the eruption having in most instances disappeared about the sixth. For small isolated patches other local applications were described. A dietary largely non-nitrogenous, the husk of the cereals being specially excluded, would limit the supplies for the keratin which is so profusely formed in the disease.

8. (Ind.) The seeds of *Argemone Mexicana* (Guj.—Satyánasi; Firangi Dhaturu) having been separated from the pricks, are heated in an iron vessel on a fire, then immediately powdered and the resulting black ointment-like substance is applied on the affected part twice a day and a bandage applied. This is said to cure inveterate cases of psoriasis after English remedies have failed.

9. (Ind.) R Sulphur, Cupri Sulph. â â. oz. 1, Plumbi Oxidi ozs. 2, Ol. Pongamiæ Glab. ozs. 5. M. For psoriasis inveterata and chronic cases with much thickening of the epidermis.

10. Heat a **plantain** (Guj.—Vasaigaru Kéru) in the fire; remove the rind, pound it in a mortar and spread it in the form of a poultice; sprinkle little sugar over the poultice and apply this over the affected part; it should be allowed to remain on the part whole night. It is said to be a specific for psoriasis.

11. F. 12, 16, pg. 459 ; F. 11, pg. 927 ; F. 17, pg. 928 ; F. 1, 2, pg. 890.

12. Berberis Aquif. 86-9, Beta-naphthol 100, Boro-glyceride Soap 891, Burdock 122, Chaulmoogra Oil 159, Creasote, Galium 294, Jaborandi, 403, Lanoline 456, Naphthol Soap, Naphthol-Sulphur Soap 891, Ol. Betula Alba, Ol. Deelinæ 521, Papaya 542, Pix Liquida 570, Pot. Sulphurata, Thymole 710, Turpentine 703, Ustilago 717, Vinolia.

PTYALISM (SALIVATION).

1. (Sp.) R Plumbi Acet. grs. 240, Alumen Pv. grs. 330, Aquæ Dest. ozs. 16, Aquæ Aro. or Aq. Menthæ Pip. ozs. 8.

Dissolve the lead and alum salts separately in the water ; mix and stir well together ; then either filter or let the precipitate settle and decant the clean solution, to which add the peppermint water if necessary. The mouth is to be regularly rinsed out with this from the beginning of the **mercurial** treatment to the end 10 or 12 times a day and in urgent cases during the night. By so doing **salivation is prevented** and if by any means it should occur its ill effects are counterbalanced by the use of mouth wash.

2. (Sp.) R Cinchon. Pv. drs. 3, Krameriæ Pv., Pot. Chlorat. Pv. â â. dr. 1. M. For the **prevention of salivation** the gums should be rubbed 10 or 12 times a day during treatment by mercury. *Vide* pg. 1100.

3. R Aluminis drs. 2, Tr. Myrrh. oz. 1, Aquæ ad. ozs. 8. M. ft. gargarisma. In **mercurial salivation**.

4. (Sp.) **Excessive salivation of pregnancy** will be entirely checked by a *Blister* 3 inches by 1 over the 4th and 5th *Lumbar Vertebrae*, allowing the blister to remain for 8 hours.

5. (Sp.) A case of **excessive salivation during pregnancy** was entirely relieved by *Pot. Bromide* when *Pot. Iodide*, *Atropine*, *Galvanism* and *Pilocarpine* injection had failed.

6. **Excessive salivation unconnected with pregnancy** is relieved by $\frac{1}{2}$ dr. doses of *Pot. Chloras* t. i. d. Chlorate of Potash is a powerful regulator of the functions of conglomerate glands, at one time repressing excessive secretion, at another restoring it to its normal condition when below par.

7. Acids (mineral), Atropine, Belladonna, Beta-naphthol 100, Cotoin 228, Creasote 229 (3.), Hamamelis 321.

PURPURA.

1. R Sodæ Sulph. grs. 120, Ferri Sulph. grs. 3, Acidi Sulph. Dil. mins. 15, Tr. Hyosc. mins. 40, Inf. Calumbæ fl. ozs. 2. M. ft. haustus. To be taken the first thing in the morning.
2. Cocklebur, Ferrum, Hamamelis 319, Pot. Chlorate 575, Quinine, Rhus Aro. 617, Strychnine, Turpentine 1056-7.

PYÆMIA (SEPTICÆMIA).

Acid Carbolic, Eucalyptus 258, Eucalyptine, Helenin 324 (5), Hydrarg. Ox. Flav., Hydrochinon 352, Hydrogen Peroxide 354, Manganese Binoxide 476, Pot. Permanganate 553, Quin. Salicyl., Quin. Sulph., Sanitas Fluid, Sodii Benzoas 659, Sod. Hyposulph. 663, Sod. Salicyl., Sod. Sulphis, Sod. Sulphocarb. 666, Zinc. Sulphocarb. 747.

RACHITIS (RICKETS.)

Acid Phosph. Dil., Calcis Hippuras 131, Calcis Liquor, Calc. Phosphas 131, Creta Prep., Ferri Phosph., Friedrichshall Water 289-90, Hypophosphites, Lipanin 465, Morrhual, Ol. Morrhua, Parrish's Syrup, Quin. Fluoridum.

RANULA.

F. 1, 2, Cysts &c., pg. 880.

RENAL (KIDNEY) DISEASES.

CHRONIC BRIGHT'S DISEASES.

Dr. Bartholow recommends **Corrosive Sublimate in Chronic Interstitial Nephritis** in doses of $\frac{1}{20}$ gr. for a lengthened period. *Vide* F. 3, pg. 807.

Recently Hungarian and Austrian physicians used 3 gr. doses of **Calomel** t. i. d. and found it to produce abundant diuresis and this polyuria lasts from 5 to 15 days.

Conclusions :—(1.) Calomel is a prompt diuretic and hydragogue in cardiac dropsy, more speedy in action than Digitalis (2.)

Removes œdema and also effusions in the great cavities (3.) Diuresis generally comes on suddenly on 3rd or 4th day when it is advisable to discontinue remedy and only to resume it when urine again becomes scanty (4.) Œdema due to nephritis or obstruction to portal system and inflammatory exudations, do not appear to be influenced favourably by mercurials and even in cardiac dropsy when urine is very albuminous its action is retarded, no action is observed until 5th or 6th day. In these cases **Corr. Subl.** as a more soluble and active preparation may act promptly.

In chronic catarrhal or tubal or parenchymatous nephritis milder remedies as **Citrate or Acetate of Potash and Buchu** may be tried first, but sooner or later recourse may be had to **Corr. Subl. and Buchu. Corr. Subl.** is also useful in Lardaceous or Cirrhotic kidney and also large white kidney and such other chronic forms of Bright's diseases in which there is chronic changes in the tubes, Malpighian bodies, the stroma, arteries &c. In these cases **Corr. Subl.** is useful. Yet there are some cases where there is no cure expected but only prolongation of life and palliation, hence the remedy should not be abandoned or rejected hastily. *Vide Cerebral Hemorrhage.*)

2. Some good results have been obtained by the use of Pot. Iodide, which, however, has been only indicated in cases of interstitial nephritis with increased arterial tension. (Senator.) *Vide* pg. 381.

3. Apocyn. Can. 63, Convallaria 221, Digitalis, Eucalyptine 263, Jaborandi 401, Lactose 448, Manzanita 478, Nitro-glycerine 509, Sodii Nitris 664, Strophanthus 689, Yerba Santa. For further remedies in **Acute and Chronic Nephritis**, *Vide* pg. 807-8.

Dietary.

(a.) **Allowed** :—Fish, sweet-breads, sago, tapioca, macaroni, baked and stewed apples, prunes &c. ; spinach, celery, lettuce &c., may be used in moderation in connection with a milk diet, without impairing its effect, and with great comfort and enjoyment to the patient. An exclusive milk diet is recommended by the majority of medical men.

(b.) **Avoid** : Strong coffee and tea, alcoholic stimulants, soups, and made-dishes. *Vide* **Dietary**, pg. 809.

PYELITIS AND PYELONEPHRITIS.

Eucalyptine 263, Kava 437, Pinol Extract 527, Salol 633, Stigmata Maidis 683, Yerba Santa.

PYONEPHROSIS.

Naphthalin 504 ; Orthosiphon Stam. 530.

HYDRONEPHROSIS.

Eucalyptine 263.

NEPHRALGIA (RENAL COLIC).

Amyl Valer 751, Antipyrin 58, Jamaica Dogwood 416, Orthosiphon 530, Papain 541, Stigmata Maidis 682, Strophanthus 689.

RENAL CALCULI.

Orthosiphon 530 ; Stigmata Maidis 682. *Vide* **Lithonlytics.**

SUPPRESION OF URINE.

Chimaphila 162, Eupatoreum 272, Galium Apar. 294, Hydrangea 330, Stigmata Maidis 683. *Vide* also pg. 861.

RHEUMATISM.**The Therapentics of Rheumatism in Infants and Children.**

At a meeting of the Medical Society of New York, held May 27th, 1889, Dr. A. Jacobi read a paper with this title, of which the following was the abstract :—

He opened by calling attention to the *frequency* with which rheumatism occurred in children and infants. *Valvular affections of the left side of the heart were usually secondary to rheumatism, and not to scarlatina.* Many cases of rheumatism in children did not develop cardiac symptoms ; but, on the other hand, **endocarditis** was sometimes the first symptom of rheumatism, even in mild cases ; the two facts contrasted strongly and must be borne in mind. The slightest symptom

of **chorea minor** should lead to an examination of both heart and joints. *Chorea minor due to a rheumatic affection of the spinal membranes* might be, not the final, but the earliest symptom of rheumatism, and rheumatic endocarditis. The elevation of temperature in rheumatism in children might be slight and irregular. Swelling of the joints was apt to be trifling in amount and easily overlooked ; and the pain (spontaneous or on pressure) might be much less severe than pains due to fatigue, rachitis, syphilis, colic, or otitis. *In every doubtful case, where a child showed signs of discomfort, safety required that the heart and joints should be examined.* But too often such a condition in a young child, requiring really very careful and repeated examinations to determine correctly, was *almost disregarded by the physician*, and the mother was assured that the child's uneasiness was caused by "*growing-pains.*" He would emphasize the fact that in a large majority of cases the so-called "*growing-pain*" indicated the presence of rheumatism and the liability to irreparable heart injuries.

As regarded treatment, *a change of residence* from localities in which rheumatism was apparently endemic was often desirable. *Alkalies* were often indicated. Cold and moist weather, damp houses, &c., frequently brought on rheumatism in the children of rheumatic parents, and in such children treatment must be mainly *preventive*. The *systematic use of cold water* would modify, and sometimes entirely remove, such a tendency. *A cold wash, sponge, wet sheet, shower-bath, or bath* (according to the child's strength or power of reaction) should be given daily. If in any case this was followed by *chilliness*, then *tepid water containing alcohol* might be used at first. *Warm clothing* should always be worn for the remainder of the day after any cold-water application. Among the various local measures mentioned for the relief of swollen and painful joints, the speaker called especial attention to *swathing of the part in cotton and flannel*, and to the application twice daily of a solution of *iodoform in collodion*, brushed copiously over the swollen surface. For *endocarditis*, *absolute rest, cold applications over the heart, and salicylate of sodium* were to be recommended.

In **muscular rheumatism** also *the best preventive treatment*, when a tendency to the affection had appeared, was the regular and

systemic use of *cold water*. In certain cases the *injection* of a small dose of *morphine*, the use of the *interrupted current*, the administration of the *salicylate*, *antipyprin*, *acetanilid*, or *phenacetin* and a few, *subcutaneous doses* of $1/12$ grain of *pilocarpine*, had given relief. Where a real *inflammation* was present in a muscle, *warm baths*, a *continued current* and *small doses* of the *bichloride of mercury* would aid in recovery.

As to the connection between rheumatism and endocarditis in children, Dr. W. H. Thomson fully concurred in Dr. Jacobi's warning lest it be overlooked. To prevent injuries to the heart in children, contracted in this way, we must be on the lookout for the preceding rheumatism, and especially if *chorea* appeared, which was the normal order in the development of rheumatism in children, the articular affection coming subsequently. He dreaded "growing pains," and put a child on the use of *cod-liver oil* at once when they were complained of. As *prophylactic measures* he would advise the *application of suitable oils* to the skin and the *wearing of flannel* both summer and winter. As regarded the therapeutics proper to a case of endocarditis, he had no faith in the power of salicylic acid, either in treatment or prevention; it was useful in articular disorders, not where the heart was involved. Antipyrin or phenacetin was preferable.

Dr. J. L. Smith agreed with Dr. Jacobi that rheumatism was often the cause underlying the development of chorea minor. In one hundred and sixty-five cases of chorea minor of which he had kept a record, only eighteen had been due to rheumatism. As to treatment, he had found the salicylate of sodium of great value if used early. He gave it internally, and also packed it around the affected joint.

Dr. H. D. Chapin remarked that *bruises* may have been received which gave no external signs; and, still more commonly, pain was due merely to *muscular weariness* and especially soreness in the joints, following play. When *rheumatism* was present, it was even *more apt to cause pain in the morning than in the evening*, while pain due to the child's being *tired* would *not*, of course, be complained of in the *morning*. *Heredity* should always be given much weight.

Acute Rheumatism in Adults.

1. Dr. Robert Bartholow divides acute rheumatism into 3 classes :—

(a.) Those of *considerable bodily vigour, spare habit, good muscular development* and having a *distinct family history of neurotic or paroxysmal disorders*. Here he administers **Salicylic Acid or Salicylate of Soda** which must be continued for several days after all the acute symptoms have subsided because in this class there is a *decided tendency to relapses*.

(b.) *Obese subjects addicted to malt liquors and good living* with, but sometimes without, an inherited predisposition to rheumatic disorders, a class whom he graphically describes as “the gelatinous descendants of albuminous parents.” Here alkaline treatment is the one to be recommended. Doses of drs. $1\frac{1}{2}$ of **alkaline carbonates either alone or with a vegetable acid**, during the first 24 hours of treatment. More commonly drs. 2 are taken in effervescence, every 3 or 4 hours with oz. 1 of **Lemon Juice** or **Acid Citric** dr. $\frac{1}{2}$ in ozs. 4 of water. As soon as the urine, when freshly voided, ceases to show an acid reaction, which is usually the case after 24 hours, the quantity of alkali is diminished by one-half.

(c.) *Pale feeble anæmic subjects, depressed by poor diets and bad hygienic surroundings* including dampness and bad air. Here the remedy *par excellence* is **Tr. Ferri Perchl.**, given in full doses of dr. $\frac{1}{2}$ to 1 in water every 4 to 8 hours.

Blisters should be applied in all the 3 classes of cases.

2. **Salicylic Acid** acts truly as a specific in acute rheumatism. In no case of rheumatism that has come under my care, during the last six years, has there been, where the heart was previously sound, any cardiac complication, such as endocarditis or pericarditis, developed. Certain conditions must be observed in using acid to ensure success :—

(1.) *The true salicylic acid obtained from the vegetable kingdom* must alone be employed. If you have to give large doses, avoid giving artificial product obtained from carbolic acid. An impure acid will very quickly produce symptoms closely resembling *delirium tremens*. (2.) Give the acid *without any alkali or base*. Mix 100 grs. with 15 grs. of acacia powder and little mucilage and divide into 30 pills by allowing the mass to stand and harden. (3.) Put the patient *fully under influence of drug* i.e. let him have sufficient to produce cerebral disturbance

viz. buzzing in ears or headache, slight deafness &c. To an adult I give 3 doses of 20 grs. (6 pills) at intervals of an hour and if head remains unaffected, 4th dose at the end of another hour and then repeat 20 grs. every 4 hours until physiological effect of remedy shows itself. In majority of cases 80 to 100 grs. are sufficient. In severe cases 140 to 150 grs. required. Afterwards about 80 grs. a day are sufficient. As long as rheumatic poison is circulating in the system, the physiological effect does not show itself, but as soon as formation of *materies morbi* is stopped, its peculiar physiological effect develops. (4.) Give patient from 40 to 80 grs. daily for 10 days after all pain and pyrexia have passed away. (5.) Let patient's **diet** consist entirely of *milk and farinaceous food* for at least a week after the evening temperature has been normal. *If he takes soup and meat he will have relapse* (6). *Take care of bowels daily.* **Calomel** is a good purgative; 2 to 5 grs. at night, followed in the morning with a **saline draught** is useful. (7.) Let the patient be enveloped in light blanket. (8.) If pericarditis, endocarditis, pneumonia or pleurisy have been developed, the remedy is powerless over the mischief which is done. It will neutralize the poison producing the mischief so as to stop its extension but the inflammatory exudations will undergo their usual changes unabbreviated in their course. By the judicious use of **cholagogue purgatives**, as calomel already mentioned, we eliminate bile from the intestines and so remove from system a quantity of glycocene, which if reabsorbed will lead to the consequent formation of uric acid. Calomel is unquestionably of service here. This purgative plan of treatment is very effective and important and is achieved by calomel and purgatives conjointly. The purgatives would not answer the plan without calomel, neither would calomel answer without purgatives. (P. W. Latham, M.A., M.D., F.R.C.P.)

In the acute form no other drug has given much satisfaction as is generally obtained with Salicylic Acid. (Ewing Marshall, M.D.). *Vsde* pg. 893 (1.)

2. An obstinate case of rheumatism was cured by daily injection for 3 days of Sod. Salicyl. per rectum each containing from 30 to 45 grs. of Salicylate. This lady was unable to tolerate any medicine by stomach. (Dr. Stein.)

3. Dr. C. C. P. Clark tells of his success in the treatment of rheumatic fever with **compound tincture of cinchona** after salicylates had failed. He gave $\frac{1}{2}$ oz. of the tincture every four hours, and the effect seems to have been marvellous. He adds that he has not found the remedy of value in chronic rheumatism, or in sciatica or any of the other kinds of so-called local rheumatism, but only in that general or constitutional ailment, which, like other fevers and many local inflammations, has at least a strong tendency to a self-limitation, whether of "six weeks" or of some other period. He thinks that phenacetin seems to possess properties much resembling those of cinchona, and that it will prove as serviceable as Huxham's tincture ; but this is not based on experience.

4. F. Leroy Satterlee, M. D., the author of a small work recently published upon Rheumatism and Gout says that he has himself suffered from the ailments which he describes. In acute rheumatism he lays much stress upon the use of **cholagogues**, giving the following formula :

R Enonymin gr. $\frac{1}{4}$, Podophyllin gr. $\frac{1}{8}$, Aloin gr. $\frac{1}{8}$, M. Sig.—One tablet twice daily, as required.

He objects to the salicylates on grounds which show a very exceptional experience or a no less exceptional lack of skill in their use on his part. His preference is for the alkalies, which he gives in the following forms :

R Pot. Bicarb. grs. 160, Aquæ Dest. fl. oz. 8. M. Sig.—1 fl. oz. to $\frac{1}{2}$ fl. oz. of fresh lemon juice ; to be taken while effervescing.

R Lithii Benz. dr. $\frac{1}{2}$, Sodii Bromidi, Pot. Carb. pur., â â. drs. 2, Pot. Acet. ozs. $1\frac{1}{2}$, Sodii Phosph. oz. $\frac{1}{2}$, Syr. Zingib., Aq. Menth. Pip., â â. ad. ozs. 6. M. et. Sig.—fl. drs. 2 to fl. drs. 4, in half a glass of water, every 4 or 6 hours, after food.

He states that this mixture of 3 bases combined with 5 acids is effectual and agrees well with the stomach.

5. **Syrup Acidi Hydriodici** is a very effective and speedy remedy for the cure of **acute inflammatory rheumatism and also in subacute rheumatism** ; *but it fails in chronic rheumatism*. It is given in doses of 2 to 3 teaspoonfuls in a wineglass-

ful of water every 2 hours ; then lessening the dose as improvement takes place and continuing the syrup for a week or ten days after symptoms have disappeared to insure recovery and prevent relapse. *It lessens pain, shortens the duration of disease and reduces the temperature.* In some cases Dr. Craig who has used this Hydriodic Acid uses the following lotion :

R Liq. Plumbi Subacet. drs. 2, Tr. Arnicae ozs. 2, Aquæ Puræ ozs. 4. M. Sig.—Add one part of solution to 3 parts of hot water and apply saturated flannel to the inflamed joints. It usually gives immediate relief. This solution is of a beautiful yellow colour when properly prepared ; Tr. Arnica should be of the U. S. Pharmacopæa.

6. J. W. Futrell recommends the following to be given in acute rheumatism :

One ounce each of *Epsom salts, Pot. Nitrate, and powdered Sulphur* are to be added to a quart of *boiling water*. After being allowed to stand in a covered vessel for six hours the mixture is to be strained and given in doses of oz. 1, three or four times a day.

As a local application to the inflamed joints he employs, at the same time, a liniment composed of *Olive Oil ozs. 5, Chloroform ozs. 2, Hartshorn drs. 6, Tr. Aconite drs. 2*. M. Apply sufficiently often to relieve pain, and give **Pot. Bromide** at night to secure rest.

7. R Pot. Nitratis drs. 2, Syr. Raspberry q. s. To be given in water in divided doses every 2 hours daily, together with the ointment mentioned in F. 14, pg. 935. For **acute articular rheumatism**.

8. R Sodæ Salicyl. grs. 10 to 20, Tr. Colchici Sem. mins. 10 to 20, Tr. Actæa Rac. mins. 30, Pot. Acetatis, grs. 15, Ol. Gaultheriæ mins. 5, Syrupi dr. 1, Aquæ oz. 1. M. Give every 3 hours. For **acute rheumatism and Gout**.

9. Sulpho-Carbolate of Soda, 15 grs. for adults every 6 hours in ozs. $2\frac{1}{2}$ of water, acts admirably. Ordinary precautions of administering an occasional aperient, placing the patient between blankets and keeping him on milk diet not to be neglected. In acute rheumatism. (H. Greenway, M.R.C.S.).

10. **Rheumatic Pills.**—R Ext. Sarsæ, Rad. Phytolacæ, Gum. Guaiaci, â â. oz. $\frac{1}{2}$, Cayenne, Pot. Iodidi, Ext. Hyosc., â â. drs. 2. Mix the whole in one mass, and add a little warm water, if required, and form them into common-sized pills. Take two twice a day. (Dr. Hamilton).

11. **Chelsea Pensioner.**—R Sulphur 6, Mustard 6, Pd. Guaiacum 3, Rhubarb $1\frac{1}{2}$, Pot. Nitr. $1\frac{1}{2}$. M. Add honey or treacle sufficient to make it into an Electuary. A teaspoonful every alternate evening for **Rheumatism**; it is also taken in the morning as an aperient to regulate the bowels. Or.

R Pot. Nitr., Sulphur, Rhei, Sinapis, â â. gr. $\frac{3}{4}$, Gum Guaiaci gr. $\frac{1}{2}$, Ext. Sarsæ Jam. gr. $\frac{1}{4}$. M. ft. pil, Two or three pills every 3 hours. For **Gout and Rheumatism**.

12. **Salolized Collodion.**—Dissolve 4 parts of Salol in an equal weight of Ether and add 30 parts of ordinary Collodion. Paint over painful rheumatic joints.

13. **Rheumatic Liniment.**—R Oils of Origanum, Hemlock, and Turpentine, each oz. 1, Sassafras Oil ozs. 2, Spts. Camphor pint $\frac{1}{2}$, Opium and Cayenne, each oz. 1, Alcohol pints 3. M.

14. **Rheumatic Oil.**—R Ether Sulph. 4, Ol. Origani 2, Ol. Lavand. 1, Ol. Terebinth. 60, parts; Alkanet to colour. M.

Subacute Rheumatism.

1. In the subacute variety **Salol** often acts nicely; while, again, a combination of **Salicylate of Sodium and Acetate of Potassium** succeeds where the Salol has seemed to fail. Generally, up to a month or so ago, I have used the salol in too small doses, and since larger ones have been used the results have been better (Ewing Marshall, M.D.).

2. A liniment composed of equal parts of **Wintergreen Oil and Olive Oil** has been used in 40 cases of subacute rheumatism; this is to be applied on joints; and then wrap it with cotton wool and lightly bandage; and the patients stated that the pain generally ceased in from 5 to 6 hours after its application.

(It is in the most chronic cases that Oil of Wintergreen is most useful and although it has been used in hundred of these cases, it should be rubbed thoroughly into the affected joints). (?)

3. Syr. Acidi Hydriodici. *Vide* pg. 1196 (5.).

18 Chronic Rheumatism.

Phosphate of Soda in a saturated solution applied locally to chronically swollen joints is useful. In chronic arthritic rheumatism Charcot prefers the **Carbonate of Sodium**, of which he gives from 7 to 10 drs. a day, *even to old and feeble women* and says he has never seen anæmia or any dissolution of the blood caused by it ; on the contrary the patients even grew stronger, possibly from better digestion of sugar, starch and fat which is caused by this and other alkalies. It also aids in the destruction of excess of fibrin in the blood and helps liver in its great work of destroying fibrin. Phosphate of Soda is a gentle and pleasant remedy and given in about the way that **Pot. Citras** and **Rochelle salts** are usually given ; the latter in $\frac{1}{2}$ or 1 oz. doses when laxation is required and either in 1 or 2 dr. doses when their alkaline effects are more desired. It neutralizes all acids, ever that which is present low down in large bowels. But potassium is the natural alkali of the red blood globules, of the muscles, fibres and all other formed and solid tissues, and Citrate of Potassium and even Rochelle salts, which is a tartrate of sodium and potassium may reach not only the serum of blood but the blood globules and parenchymatous structures when rheumatism is fairly lodged in the latter. *Vide* pg. 665.

Benzoate of Sodium is another *non-depressing sodium salt* and *antipyretic* in large doses. It is a *solvent of uric acid*, increases the elimination of urates in rheumatic lithiasis and converts uric acid into hippuric &c. In **delicate and sensitive patients** benzoate of sodium may be given with Sp. Amm. Aro. as :—

R Sodii Benz., Sp. Ammon. Aro., Sp. Myristicæ, â â. drs. 6,
Sp. Chloroformi drs. 2, Sp. Gaultheriæ ad ozs. 6. Dose : 1
to 2 drs. in water.

Sodii Hippuras has been suggested lately in doses of 5 to 30 grs. Favourite prescription with Dr. Granville is :

R Sodii Hippur. drs. 2. Glycerini drs. 6, Aq. Cinnamomi ad. ozs.
6. M. Dose : drs. 2 to oz. 1, t. i. d. *Vide* pg. 663.

Sodii Taurocholas also holds uric acid in solution and renders stools rich in bile without promoting purging. Dose : 3 to 6 grs., and is very useful in **obese rheumatic patients**, in whom the excess of fat slowly melts away.

Sodii Salicylas is only useful in **acute aggravations of chronic rheumatism**.

Sodii Valerianas is declared by Granville to be very useful in weak and very sensitive patients. Its therapeutic value is greater than most of the other sodium salts. It relieves nervous troubles and hyperæsthesia of rheumatism and gout quite effectively and also promotes activity of absorbents, tending to remove congestion, exudation, thickening and hardening about rheumatic joints. Dose : 1 to 5 grs.

Quinine and Salicine are also used by some. But the best tonic for *anæmia and debility of chronic rheumatism* is **Ferri Potassæ Tartras**.

Pot. Acetas quickly supported by Iron is a most reliable remedy in subacute rheumatism and especially in those forms which are liable to frequent acute exacerbations. But Pot. Citras is much more pleasant and less depressing in very chronic cases.

There are pathologically 2 great varieties of chronic rheumatic joint disease 1. **The fibrous** and 2. **dendritic**. In the first the tendency of all exudations is fibrogenous, the inflammatory products or thickenings instead of remaining in soft and gelatinous state, become hard and tough. The favourite remedy for this state is **Ammon. Chloride** freely given, and if fear be entertained that it will prove too debilitating, combine it with **Tr. Serpentry**. **Tr. Ferri Perchl.** is also useful. **Ammon. Chloride** is a solvent and liquefies a ancient remedy which tends to render all secretions more abundant while at same time reduces plasticity of blood and destroys fibrin. It acts on kidneys and if long continued will cause emaciation commencing first with absorption of fats and then of soft fibrin. It is useful externally and

internally in fibrous thickening of ligaments and tendons about rheumatic joints. Useful in **Chronic rheumatic synovitis**. Dose : 5 to 15 grs. upto 150 grs. a day. Its great rival is **Corrosive Sublimate** given in doses of $\frac{1}{24}$ to $\frac{1}{16}$ gr. in Huxham's Tr. of Bark or Tr. Serpentariæ.

Next great variety of chronic rheumatism is **dendritic** in which folds or fringes of synovial membrane are greatly developed. For this **Sabina** is suggested especially when it occurs in females at the **menopause** or where there is decided **uterine derangement**.

Pulsatilla is a remedy which is supposed to act specifically upon almost all the mucous and synovial membranes especially those of small joints. Useful in subacute and chronic arthritic rheumatism when there is little or no fever, also in rheumatic gout in females with catarrhal and rheumatic disorders of menstruation.

But next to Carbonate of Sodium Charcot prefers Iodine to Ammon, Chloride and Sabina. Not Iodide of Potassium but **Tr. Iodine** in doses of 8 to 10 drops steadily increased upto 30 to 60 in 24 hours. It is given with meals in water slightly sweetened, continued for several weeks or months and best given in Spanish wine. Granville thinks also Iodine best but he gives it combined with Ammon. Chloride and Pot. Chlorate.

Arsenic is also useful but uncertain; it sometimes first aggravates the disease.

Ammon. Phosphas is indicated in delicate and feeble subjects.

2. (Sp.) In the daily clinic at the University of Louisville it has fallen to my lot to prescribe for a great many rheumatic cases, and they have been especially numerous during the last two years.

In chronic rheumatism, and in those migratory pains hard to classify, I think we have a perfect mixture. For some time I have been watching the effects of the individual members of the mixture; first alone, then in pairs, and lastly the combination which is given below:—

R Sodii Salicyl., Pot. Iodidi, Pot. Acetatis, â â. drs. 2, Ext. Casc-
aræ Sagr. Fl. Glycerini, Aquæ Ciinam. â â. drs. 4, Aquæ

Menthæ Pip. q. s. ad. ozs. 3. M. ft. sol. Sig.—Teaspoonful every four hours.

It has been a clinical observation with me that the *majority of chronic rheumatics are likewise the subjects of chronic constipation*. Giving but a moment's thought to the subject, one must see the advantage of this combination. The anti-rheumatic and general alterative powers of the three first ingredients are so well known that it would be wasted time to speak of them individually, but it has seemed by combining them we obtain more than four times the effect that we generally obtain from any one of them by itself. Now, with reference to the chronic constipation, in glycerine and cascara we have a combination producing very pleasant, gentle, but usually sufficient laxative effects. It has been our custom to vary the amount of the cascara according to the needs of the case. If the bowels should be very obstinate, increase the amount of the cascara, while if, on the other hand, they acted with little assistance, we diminished the quantity. To those laboring with *any chronic rheumatism* I would urge a trial of this anti-rheumatic mixture, believing it will serve them well. (Ewing Marshall, M.D.).

Muscular Rheumatism.

1. Injection of 8 drops of one per cent. solution of **Osmic Acid** is very effective for muscular rheumatism.
2. **Magnes. Sulph.** in doses of 5 to 10 grs. in cold water immediately after meals will produce great relief in muscular rheumatism. (Dr. H. B. Chose).

Other Formulæ and Remedies for acute, subacute, chronic, and muscular rheumatism are : (a.) F. 5, 6, 7, 10, Gout ; F. 2, Neuralgia ; F. 1, Obesity.

(b.) Amyl Valer. 751, *Anodyne Amyl Colloid* (E.), *Antimony* 56, *Antipyrin* 59, *Asteracantha* L., *Actæa* R. 24, Betol, Boldo, Bryonia Alba 120, Burdock, *Camphor-Chloral* 134, *Capsicum* 141 (8.), 142 (*ethereal tr.*), *Cascara Sagr.* 153, *Cerii Salicyl.*, *Cinchon. Salicyl.*, *Chimaphila*, *Cocculus Cord.*, Coto, Eucalyptus, Eulyptol, *Gelsemium* 297, *Grindelia Squar.*, Guaco, *Hydracetin* 588, *Ichthyol* 368,

Iodoform 390 (c) and 13, *Jaborandi* 403, *Jamaica Dogwood* 420, *Kairin*, *Ianolin* 457, *Lithii Guaiacas*, *L. Iodide*, *L. Salicyl.*, *Manaca* 471, *Menisperm. C.*, *Methacetin* 495, *Methylene Blue* 761 *Naphthalol* 508, *Ol. Pini Syl.* 526, *Phenacetin* 556, *Pinol* 527, *Pini Pumil. Ext.* 527, *Phytolacca* 565, *Pot. Bicarb.* *Quin. Bromide* 595, *Quin. Salicyl.* 595, *Rhus Toxic.* 619, *Rumex Crisp.*, *Salol* 631, *Sierra Salvia*, *Sadii Hyposulph.*, *S. Nitrite*, *S. Sulphocabol.*, *Sulphur* 700, *Thiol* 707, *Trimethylamine* 771, *Veratrum V.*, *Xanthoxylum C.*

Dietary.

A fruit and vegetable diet is most favourable for patients with chronic rheumatic troubles.

Allowed.—Beef and mutton in moderation, with *horseradish* as a relish; fish and eggs, green vegetables and fruit, especially lemons. The skimmed-milk diet has been advocated by some authors.

Avoid.—Starchy and saccharine food; all malt liquors, wines, and coffee. *Vide* pg. 986—7.

ROSEOLA.

Jaborandi 402, *Menthol* 461, *Sanguinaria* 637; mild alteratives or salines; a plain and an antiphlogistic regimen.

SCABIES (ITCH).

1. (Sp.) **Acid Oxynaphthoic.**—*Schwimmer's Formula*: R Acid Oxynaphthoic, Creta Prep., Sapo Mollis, â â. dr. 1, Adepis oz. 1. Mix. To be rubbed on the affected parts and then starch is powdered on. This is repeated twice daily and a bath taken at the end of 4th day. Its action is so prompt that it cures scabies in 3 or 4 days. It can be used for children, upon whom it has no toxic effects.

2. (Sp.) **Kerosine Oil.**—On the first day, before bedtime, the patient is to gently anoint his whole body, except the head, with Kerosine, rubbing it in especially in parts most affected. Next morning the oily substance is to be washed off with soap and water and wearing clean underwear replacing that worn at night.

On repeating the process three nights successively, complete cure will invariably follow. This treatment is *most simple and inexpensive*. A quart of Kerosine and a piece of soap is all that is needed. This application is *harmless* as it has been used with 8 year-old children ; *with younger ones however we should abstain*.

3. (Sp.) **Chlorinated Oil**.—This new remedy for scabies is made by passing *Chlorine* into *Olive Oil*. A compress of cotton saturated with this oil is to be applied night and morning. It is said to be equally efficacious in other parasitic skin affections.

4. (Sp.) **Carbolized Oil**, *Strength : 1 of Carbolic Acid in 15 of Olive Oil*.—It was used in 8 cases of children and adults. In 3 or 4 days eruptions completely fade away. It allays pruritus by its local anæsthetic effects. In cases of scabies, with severe dermatitis or eczema, sulphur may kill the *acarus* but it is apt to aggravate the dermatitis. I have found the oil in the strength above indicated a trust-worthy application with a quick result and so useful in cases where sulphur ointment may fail sometimes. (Fred. Tresilian, M.D.).

Dr. Rothmund applies : Acid Carbol. mins. 20, Ol. Lini, Vel Glycerini ozs. 2. Rubbed t. i. d. on the affected parts. Old cases yielded to the treatment in $2\frac{1}{2}$ days.

5. Dr. Lemaire uses for itch 1 part Acid Carbol. in 40 of Vinegar and 100 water, and says that one application kills the *acarus*.

6. R Pot. Carbon. dr. 1, Sod. Sulphite drs. 2, Acid Carbol. mins. 8, Pd. White Hellebore dr. $\frac{1}{2}$, Vaseline oz. 1, M. May be perfumed.

7. R Sulphur Hypochlorit. grs. 30, Vinolia oz. 1. M.

8. **Lotio Calcii Sulphidi** is said to cure itch in a very short time ($\frac{1}{2}$ hour). It should be diluted with an equal quantity of water and applied to the patient after a bath.

9. F. **Prurigo Senilis** F. 5, **Phthiriasis**.

10. (Ind.) R Terminalia Chebula (Hardé), Phyllanth. Emblica (Amalá), Pearl Barley (Java), â â. partes equales. Fry the first with castor oil in a pan and powder ; fry the second and third

without castor oil and powder. Mix all together and incorporate well with butter and apply. It cures inveterate cases of scabies.

11. Aristol 754, B. Naphthol 98, Calc. Chloratæ Liq., Clerodendron 173, Helenin 324 (4.), Hydrarg. Ammon., Jatropha C. 427, Mangifera Ind. 477, Menthol 491, Naphthalin 503, Naphthol Soap 891, Naphthol-Sulphur Soap 892, Oleat. Plumbi 518 (4.), Picrasma Quas. 569, Pot. Sulphurata, Rumex C. 621, Sabina (the expressed juice diluted, or an infusion), Sublimate Soap 892, Sulphocarbolates.

SCIATICA.

1. (Sp.) Enveloping the painful limb in dry **sulphur powder** cures inveterate cases of sciatica after even hypodermic injections have failed. In two hours after this application perspiration breaks out over the limb and the patient gets relief.

2. (Sp.) Dr. Kums, of Antwerp, recommends **injections of Sulphuric Ether** subcutaneously for rheumatic neuralgias. The injection is to be made as near as possible to the seat of pain, and is to be followed by massage of the part. He has thus succeeded in rapidly curing neuralgias of the shoulder, hip, face, and other parts. *Vide* pg. 27. (3).

3. Hypodermic injection of **Nitrate of Silver** solution (1 in 4) has cured sciatica; after injection great pain follows and a small abscess forms, and the sciatica gets cured.

4. R Ol. Crotonis min. $\frac{1}{6}$, Pil. Coloc. Co. grs. $2\frac{1}{2}$, Pil. Asafætidæ Co. grs. $2\frac{1}{2}$. M. ft. pil. Two or three at bedtime for a few nights. A brisk cathartic, useful in cases of sciatica depending upon loaded colon, and in cerebral congestion, apoplexy, visceral obstructions, &c.

5. F. 5 (*a.*) pg. 875; F. 10, pg. 952; F. 2, 5, 7, 9, 11, pg. 1065.

6. Acid Osmic 14, *Actæa Rac.* 24, *Antipyrin* 58, Arsenic, *Camphor-Chloral* 134, *Coninæ Hydrobrom.* 214 (2.), *Exalgine* 284, *Gelsemium* 297, *Jamaica Dogwood* 416, *Menthol* 490, *Methylene Blue* 762, *Methyl Chloride* (spray) 497, *Phenacetin* 557, *Pichi* 568, *Rhus Toxic.* 619 *Salol* 631, *Sierra Salvia* 658, *Solanine* 769, *Theine* 770, *Water* (cold) 1019. *Vide Myalgia and Neuralgias.*

SCLERODERMA.

1. Dr. A. Llopis reports a case of scleroderma occurring in a woman of 45 years of age and affecting both mammæ, which were of stony hardness and atrophied on the surface, with the exception of the nipple being covered with large dark scales—*psoriasis nigricans*. The patient complained greatly of constriction of the chest, which prevented her breathing easily. The left arm was also affected. Before being seen by Dr. Llopis, three skilful practitioners had at different times diagnosed cancer and had advised operative measures. Dr. Llopis diagnosed **Scleroderma Adultorum**, and ordered a *nutritive diet, Arsenic internally, an alkaline wash, frictions of Cod Liver Oil* for the psoriasis, and *soothing ointment* to be applied to the nipple, which was raw and painful. After about 10 days of this treatment there was some improvement to the touch and also some diminution of the difficulty of breathing. The amelioration was, however, only temporary. The Arsenic was discontinued, and *mercurial inunctions*, combined with *aromatic vapour baths*, ordered, which were continued until constitutional symptoms began to present themselves. This treatment again, was followed by general improvement, and Dr. Llopis proposes after a time to recommence the mercurial inunctions.

2. Dr. Nixon also reports a case of **unilateral scleroderma**, in which there was *hemiatrophia facialis, atrophy of one side of the body, and alopecia* confined to the side of the head corresponding to that of the body implicated. Large patches of *morphæa* were engrafted upon the sclerodermatous skin. He gives reasons why the affection should be regarded as a *trophoneurosis*. The treatment adopted was the administration of Cod Liver Oil and a mixture containing Quiniæ Hydrochl., Tr. Ferri Perchl. and Liq. Arsenicalis. The *local treatment* consisted in the use of *warm baths*, with *shampooing*, rubbing the indurated skin with *lanolin*. The patient was kept *warmly covered*, and warned to *avoid wet or cold*.

SCLEROSIS (CEREBRAL AND SPINAL.)

1. Professor Da Costa alleges that he has seen marked improvements in posterior spinal sclerosis from the long continued use of the following formula :—

R Hydrarg. Bichloridi gr. $\frac{1}{2}$, Ammon. Chloridi grs. 40, Aquæ drs. 2. M. One teaspoonful one hour after meals.

Agenti Nitras, Arsenic, Belladonna, Bromides, Cod Liver Oil, Ergot, Galvanism, Hyosc. Hydrobrom. 361, Hypophosphites, Massage, Phosphorus, Spermine 677, Strychnine, Zinc Phosphide.

SCROFULA.

Alnuin, Ampelopsin, Baptisin, Berberis Aquif. (Report 7) 89, Burdock, Calc. Chloride 130, C. Hippuras, C. Phosphas, C. Sulphide 133, Chaulmoogra Oil, Chimaphilin, Conium, Corydalin, Creta Prep., Digitalis, Eserine, Ferri Benz., Ferri Iodide, Friederichshall Water 289 (4.), Fucus Vesic., Hoang Nan 327, Hyd. Iod. Rub., Hyd. Iod., Virid., Hyd. Subchl., Hydrocotyle As., Ichthyol 371, Iodoform 389, Iodol 396, Iridin, Juglandin, Manaca 473, McDade's Compound 482, Menispermum, Mezereum, Morrhue, Myricin, Nuphar Adv., Ol. Morrhue, Phosphorus, Phytolacca, Pot. Bichrom., Pot. Bromide, Pot. Bicar., Pot. Liquor, Pot. Chlor., Quinine, Siegesbeckia, Sod. Bicar., Sod. Hyposulph., Sod. Iodide, Stillingia, Trifol. Comp. 713, Xanthoxylum.

SEBORRŒA (OF UNNA.)

1. *Shulldham's Treatment*.—The head should be first well washed with hot water and **alcohol soap**. Alcohol soap consists of 2 ozs. of soft soap, $\frac{1}{2}$ oz. of rectified spirit and 10 mins. of oil of lavender. The soap is afterwards carefully washed away with plenty of hot water, and the head is then thoroughly dried by means of a warm soft cloth. When the head is quite dry, a **Glycerole of Tannin**, strength from 10 to 30 grs. to the ounce, according to the gravity of the case, should be freely and firmly rubbed into the scalp. If Tannin fail, **Resorcine** may be tried. (*Vide* F. 1, pg. 883) ; but the tannic acid generally does the work. This process should be repeated once, twice, or thrice a week, as the symptoms may require. After the total removal of the dandruff, a daily dressing with **Carbolic Oil** favours the growth of fresh hair : 10 grs. of absolute Phenole, 1 dr. of Ol. Cinnam., and 1 oz. of Ol. Olivæ. Warm together and decant off. Apply freely every day. (E. Blake, M.D.)

2. R Hydrarg. Oxid. Flav. grs. 4 to 7, Vaselini oz. 1. M.

3. F. 5, pg. 926 ; F. 7, pg. 1010 ; Boroglyceride Soap 891 ; Chamomile Soap 891 ; Naphthol-Sulphur Soap 892. *Vide Dandruff:*

SHOCK.

The treatment of **railway shock**, as well as of **shock in general**, naturally falls into two subdivisions,—first, the treatment of the stage of **shock itself**; and, secondly, the treatment of its **sequelæ**. In the treatment of the stage of shock itself two objects must be borne in mind,—first, the averting of actual death and the production of a healthy reaction ; and, secondly, the averting, if possible, of either functional or organic sequelæ.

How, then, shall we treat a case of **profound general shock** ?

Let us remember that the symptoms of shock are essentially paralytic in their nature. Let us recall for a moment the feeble, almost imperceptible pulse, the feeble respiration, the cold, clammy surface, the extreme pallor, and the profound muscular weakness. The first thing that occurs to us is the use of a **cardiac stimulant**, and in all times alcohol has been used for this purpose. **Whiskey**, and preferably whiskey to which hot water has been added, is to be given, if possible ; but, it may be, either because the patient is vomiting, or by reason of the very depth of the shock itself, no decided effect is produced. **Ammonia**, in its various preparations, also suggests itself ; but, for like reasons, its effects may be inappreciable or altogether transient. A powerful remedy, however, we have in digitalis. Lauder Brunton suggests its use in shock, basing his opinion upon the case of Wilks, in which shock followed labor, and in which recovery ensued on administering **tincture of digitalis** in $\frac{1}{2}$ drachm doses every half-hour. That in digitalis we have a most valuable remedy there can be no doubt, and that in urgent cases it should be used in large doses, if at all, is equally true. It has the additional advantage of being readily administered subcutaneously, and, with proper care, can thus be given with great accuracy. Ten to twenty minims of the tincture, slightly diluted, can be injected at short intervals until some effect is noted upon the pulse. Further, **atropine** administered in the same way, in small doses and not too frequently repeated, may also be used

to the same end, this drug being, as we know, a stimulant to the circulation, and notably to the vaso-motor centres.

However, we must remember that shock affects the nervous system as a whole, that not *one* system of centres but *all* are affected, and that, therefore, some remedy, more general in its action, should be employed. Such a remedy we have in **strychnine**. I have for some time past regarded strychnine as one of the remedies of the utmost importance in shock. Mansell-Moullin and Groeningen both recognize its value, especially the latter. Certainly, in profound shock—the shock that threatens to be fatal, shock that refuses to yield to other measures—strychnine should be given subcutaneously, and, if necessary, in massive doses. In extreme cases, I should not hesitate to use it in doses of $1/10$, or even $1/5$, of a grain. On *a priori* grounds alone, the remedy must be regarded as of the utmost value, for by no other means can the nervous system be so profoundly impressed so rapidly re-energized.

While these thoughts are passing through our minds, we must not forget that our patient is cold, cold even unto death, and that **artificial heat** is one of the very first desiderata. This heat can be supplied by cans or bottles of hot water, or other heated objects. The best of these means, however, meet the indications but imperfectly. Recently, in a case of collapse, occurring in a child during the course of a pleurisy, and in which the temperature fell to 96.5° , I caused an ordinary hospital water-bed to be filled with hot water, and, having covered it with several layers of flannel blankets, placed my patient upon it. The result was gratifying in the highest degree, the temperature of the body soon rising to a little above normal. Evidently this expedient meets every indication. Not only have we a large amount of heat applied to a very large surface of the body; but, what is very important, it is *dry* heat. Certainly, by no other means can the temperature of the body be so readily influenced as by the **hot-water-bed**.

Further, there can be no doubt that **sinapisms** to the epigastrium, and large **enemata of hot coffee**, are also conducive to reaction. The **subcutaneous injection of ether** is, likewise, also beneficial, though, in the cases in which I have seen it used,—

namely, collapse during abdominal operations,—it seemed to act rather as local irritant, and thus stimulating the heart in a reflex way.*

We must remember, above all things, that our patient must be kept in an **absolutely horizontal position, with the head rather lower than the trunk**, that he must *not be moved about or lifted unnecessarily, and that all manipulations*, except such as are absolutely necessary to determine the condition of the circulation, the respiration and the temperature *must be avoided*. Very rarely, indeed, attempts at **artificial respiration** may be justified, or **friction of the limbs**, the direction being always towards the trunk, may be admissible. In the main, however, our patient will be most benefited if let alone.

Of the various measures, then, at our command for treating a case of shock, *whiskey and dry heat should first be employed*; secondly, our case being at the outset very threatening, a full dose of *strychnine* should be given hypodermically,—say 1/10 of a grain. Following this, *digitalis and atropine* may be used. Repetition must be guided by the deepening of the collapse.

In shock with restlessness and excitement—that is, the so-called **erethistic form**, in addition to the various measures employed in simple shock, we have no more valuable remedy than **Musk**. It should be freely administered, in doses say of 15 grs., and preferably by the rectum. Its action in soothing, quieting and steadying the nervous system is undoubted. Should musk be inaccessible, **Valerian** might be employed, in large doses, of course, in its stead, but with much less promise, of success. Better still, **Hops**, in the form of the fluid extract, a drachm or more, may be administered.

You are to remember however, above all things, that, as in the simple form of shock, *needless interference with the patient is to be avoided*, and that it is better to err in doing too little than attempting too much. The individual judgment of the physician must

* There can be no doubt that in shock, as elsewhere, the inhalation of ether—i.e., its cautious and sparing administration—acts very much as does alcohol, namely, as a stimulant. This is, I believe, in harmony with the experience of surgeons. Chloroform in shock is, of course, to be rigidly tabooed.

always guide him in the selection of his remedies in any given case. *Rest* alone will in some cases in due time be followed by reaction. In others again, a dose of *Whiskey*, or, possibly, *Whiskey* to which a small dose of *Morphine* has been added, will give the most gratifying results. In others, still, the depression may be so great that the *prompt application of external heat*, and the various *other powerful remedies* already detailed, may be required. No fixed rule can be given, the indication must be met as they arise.

Treatment of Sequelæ.—Let us suppose, now, that the stage of shock itself has been successfully combated. Let us suppose that our case has been one of *railway shock* in which the psychic element has played a prominent part, or that it is one of those cases in which *powerful blows have been received upon the trunk or upon the back*. We will remember at once how frequently psychic shock is attended by persistent sequelæ, not to speak of those more rare cases in which death itself follows after a time. Further, we recall the fact that *permanent spinal symptoms, actual organic cord changes*, may follow blows upon the trunk. What, then, shall be done, what measures shall we adopt, to meet these possibilities?

Evidently the state of **rest must be prolonged**,—prolonged far beyond the apparent needs of the patient's condition. All the time we should be on the alert for symptoms indicative of chronicity, and by all means in our power combat them. Surely the neurasthenia and the profound hysteria that occasionally ensue upon shock demand rest, and the sooner it is given them the better; and, in those cases in which shock of the cord is suspected,—in which, it may be, organic changes have been set up,—absolute rest is likewise indispensable. In other words, I believe that every case of railway shock, if at all severe, should at once be submitted to a *rest-cure* based upon the Weir Mitchell method. In such cases, whether mental or spinal, **absolute rest, isolation from friends, forced feeding, massage and electricity** should be the order of the day. Even with these precautions cases in which the sequelæ are delayed would escape us; but “better late than never” should be our motto, and the rest-cure should be adopted whenever

the sequelæ are detected. The benefit of a *careful watch over railway cases* can be no better illustrated than those in which subsequent vertebral disease leads to paraplegia, and in which interference at an early day may avert this unfortunate result. (F. X. Dercum, M.D.).

2. Black Coffee (I.), Ergot (hypod.), *Nitroglycerine* 509, Sp. Ammon. Aro. (I.), Sp. Vini Gallici (I.).

SMALL-POX (VARIOLA.)

1. **Corrosive Sublimate.**—M. Talaman has made an interesting study of the treatment of the pustules of variola by *Corrosive Sublimate*. He conceives the pustules to be due to the action of the bacterium or germ of variola on the cells of the lower Malpighian layer of the skin, and hopes that they may be prevented by a thorough antiseptic treatment by spray on the skin. For this purpose he has used an ethereal solution of Corr. Subl. as follows :—

R Hydrag. Perchl. grs. 4, Acid Citric grs. 4, Sp. Rectif. drs. 4, Ætheris pur. ad ozs. 10. M. To be applied with a spray 3 or 4 times a day until the pustules had completely dried up.

In application it was desirable to continue the spray long enough to whiten the surface with perchloride, but not so long as to induce blisters and ulceration. About a minute was generally sufficient; and as a rule very little pain was produced. Whilst the spray was acting, it was useful to protect the eyes with cotton wool steeped in saturated Boric Acid solution. There was very little mercurialism in spite of the large amount of perchloride on the skin, and probably not much penetrated below the deeper layer of the skin. The cases of confluent small-pox with or without hemorrhage were not notably influenced by this or any other treatment. In moderate cases there was rapid improvement and diminution of suppuration. In the cases only in part confluent, there was arrest of confluence in the parts where groups of pustules were tending to run together. The influence on the scars was very marked. There was none of the deep vermicul scarring which is the most disfiguring; and only in some severe cases some punctate scars, and proportionate improve-

ment in less severe types. In many cases the patients could not control themselves from scratching the heads off the pustules and losing the benefits of the treatment. If there was an eruption on first or second day the face was covered with lather, and this was washed off with a Boric Acid solution. On the third day this was found useless, and treatment with ethereal perchloride was begun. Sufficient was applied to leave a thin whitish coating; a quarter of an hour afterwards some **Glycerine of Perchloride** (6 per cent.) was rubbed in. If the crusts of the pustules were rubbed off, then in place of the Glyc. of Perchl., some **Vaseline with Salol or Boric Acid** was used. The use of the spray twice a day was generally kept up till the 6th or 7th day. If the eruption was very abundant on the hands they were laid in baths of warm solution of Boric Acid; this hot solution was used for the eyes, and for the mouth and throat as a gargle.

2. (Sp.) **Salicylic Acid and Quinine.**—Dr. Lewentaner, of Constantinople, speaks very encouragingly of the success attending an antiseptic method of treating the disease, which he tried in several cases. This method consisted in the application of an ointment composed of *salicylic acid*, three parts; *starch*, thirty parts; and *glycerine*, seventy parts. The ointment was applied to the face by means of a mask, and also to the other parts on which the eruption was marked. Notwithstanding that the eruption was confluent in many cases, large bullæ filled with pus being present, the lesions all dried up without rupturing, and left no cicatrices to mark their site. In addition to the external application, a mixture of quinine in cherry laurel water, oil of sweet almonds, and syrup of orange flowers was employed. A small quantity of this mixture was dropped on the tongue and back of the pharynx by means of an ordinary medicine-dropper, three or four times an hour. This served to keep the mucous membrane of the mouth and pharynx moist while supplying at the same time a certain amount of quinine. There was about one grain of this drug in one and a half drachm of the mixture. All the children treated in this way recovered, although the ordinary mortality of the disease is forty per cent.

3. **Iodine.**—Although Dr. Jas. L. Neave does not claim that by any method of treatment "pitting" can be certainly or entirely

prevented, he has found that painting the face with tincture of iodine immediately upon the appearance of the eruption seems to have the effect of aborting the eruption to a great extent, many of the pocks never passing beyond the papular stage. His opportunities enabled him to experiment with a number of measures, and he found that carbolic acid and glycerine (gr. xv. ad. oz. i.) rather increased the trouble and irritation. Carbolic acid with simple ointment was also a failure. Collodion caused intolerable itching and destructive scratching. Carbolic acid with linseed oil (oz. ss. to oz. iv.) lessened the itching, but not the scarring. The experiment of painting one side of the face with collodion and the other with iodine resulted in favor of the latter in every way.

4. **Fl. Extr. of Sarracenia Purpurea** (Pitcher Plant) administered internally prevents small-pox and shortens its duration when present.

5. **Acid Carbolic.**—(a.) B Acid Carbolic 4 to 10. Ol. Olivæ 40, Cretæ Prep. 60. M. Or.

R A. Carbolic 5, Ol. Olivæ 40, Amyli 40. M. To be smeared over the pustules and renewed every 12 hours; has proved very useful to prevent pitting.

(b.) Solution (1 to 20) of Carbolic Acid, applied with camel's hair pencil to each pustule, shrivelled them up, and entirely prevented any marks of pitting. Applied from 7th to 12th day of the eruption, latter date in cases of variola confluens. (Dr. L. C. Churchill).

(c.) Paint the pustules daily with solution of Carbolic Acid (1 in 18) using broad camel hair brush, beginning second day of the eruption, and continuing till the skin becomes clean. In latter period reduce solution to 1 in 32 and apply twice daily. Allays irritation and itching, refreshes the patient, and often prevents confluence. (R. G. Kellet, L.R.C.P.).

(d.) In early stage of confluent variola, Carbolic Acid, 1 grm.* administered daily (diluted in 150 water) for 8 or 10 days, cut short secondary fever and suppuration. Lotions in 50 to 100 parts water.

* It means that the 1 grm. should be given in several doses during the day, as 15 grs. is the usual equivalent of 5 or 6 doses. (F.C.C.).

also applied to the face and hands. Tonic regimen followed. (Drs. Chaufford and Douillard).

5. *Iodized Glycerine* 304 (8.), *Iodoform* 392 (19.), *Jaborandi* 402, *Liq. Chlori* (used diluted as a gargle), *Menthol* 490 (4.), *Pot-Chlorate* (I.), *Sanitas Oil* 643 (4.), *Sodii Sulphis* 666, *Sod. Sulpho-carb.* 666, *Sulphur* 699, *Xylol* 772.

SPERMATORRHŒA.

1. (Sp.) **The Mexican Prescription.**—R Pd. Ext. *Turnera Aphrodisiac* (Damiana), Pd. Ext. *Yerba Santa Buena*, â â. oz. 1, Pd. Ext. *Solanum Jerubeba* (Jurubeba), Pd. Green Leaves of *Manzanita Vulg.*, â â. oz. $\frac{1}{2}$. Mix well together, put into a glass jar, add enough water to make a paste, knead thoroughly, then cover the whole with pure tin foil to exclude the air. For a Dose, break off two pieces the size of a green pea, roll them between the fingers into a globular form, and swallow with a draught of water. Take the Medicine three or four times a day, always after eating.

Rev. Joseph Holmes, who had suffered for a very long period from spermatorrhœa, complete nervous prostration &c. as a result of self abuse and who had visited several countries to get relief from the same, and was treated by various practitioners to no effect, but who was ultimately cured and fully restored to health by this remedy, says respecting the efficacy of this combination as follows :

“ This is the only authorized prescription by the Eminent Dr. Alberto Juarez de Barrera, published under his sanction by me. The combination of these herbs is called the “ Mexican Prescription.” The wonderful restorative properties of these herbs up to the time of my visit had only been known to the natives, also of late to some Jesuit Missionaries from Southern California. residing in Mexico, who have recognized their value, and advocated their use when other medicaments have utterly failed.

This prescription, compounded from the above herbs, is the only specific known for the speedy cure of all errors and indiscretions of youth, whether of recent date or of a chronic nature. Spermatorrhœa, Seminal Weakness, Nightly Emissions, Exhausted Vitality, Impotence,

Lascivious Dreams, and all after effects caused by Masturbation or Self Abuse, if not checked will surely lead to an early grave. In Gonorrhœa or Gleet, Inflammation of the Urethra and Bladder, or Nervous Debility, it acts as a soothing, healing specific. For the Diseases of Females, from whatever cause arising, such as Leucorrhœa, or Whites, it is a radical cure. The action of these herbs is particularly healing on all Membranes of the Urinary and Genital Organs, whether male or female ; they cure all abnormal discharges, build up the delicate tissues, and restore to manhood the broken-down, fagged-out or weary constitutions. The late eminent Doctor José Fernandez de Rodriguez,, of Guadalajara, Mexico, says that this prescription is the only one that ever gave actual relief and cure to sufferers from Leucorrhœa, Sterility, bearing-down Pains, or falling of the Womb. He also reports to the Mexican Medical Board a complete cure of over 300 cases of lost manhood that came under his treatment.

2. F. 3, 4, **Chordee** ; F. 3, 5, **Enuresis** ; F. 1, 2, 3, 4, 7, **Impotence** ; F. 1, **Nocturnal Emissions**.

3. *Atropine* 83 (7.), *Damiana* 233, *Digitalis*, *Hibiscus Rosa-Sinensis* (flowers), *Hydrastis Can.*, *Hyosc. Hydrobrom.* 362 (4.), *Jurubeba*, *Manzanita* 478, *Menthol* 492 (15.), *Salix Nigra* 629, *Sanguinaria* 637, *Tribulus Terr.*, *Ustilago Maidis*.

SPINA BIFIDA.

The use of injections for the cure of spina bifida was first suggested by Dr. Brainard, of Chicago, in 1848. His formula is :

R Iodini gr. $\frac{1}{4}$ to 5, Pot. Iodidi gr. $\frac{1}{4}$ to 15, Distilled Water oz. 1. M.
Sig. Use about dr. $\frac{1}{2}$ for each injection.

The rules for its use are : (1) Make the puncture subcutaneously in the sound skin by the side of the tumour. (2.) Draw off no more serum than the quantity to be injected. (3.) Apply pressure during the operation so that none of the solution shall enter the spinal canal. (4.) If symptoms of irritation appear, draw off all the contents of the sac and replace them with distilled water. After the operation the patient should lie on his side, and, if there is much heat, evaporating lotions to the part are required. As soon as the tumor becomes flaccid

it should be covered with collodion, or supported by pressure. The injection should be repeated as often as necessary, care being taken previous irritation has completely subsided.

Professor James Morton's injection-fluid has Glycerine for its menstruum :

R Iodini grs. 10, Pot. Iodidi grs. 30, Glycerini fl. oz. 1. M.

It was thought that, as this fluid is less diffusible than either a spirituous or watery solution, it will be found less likely to permeate the cerebro-spinal fluid with rapidity, and so cause shock or bring on convulsions. According to the London committee's tables, the injection of Morton's fluid showed a percentage of success higher than all other operative measures,—between 50 and 60 per cent. Of the seven cases treated by Brainard before the publication of his paper in 1861, in 3 only was there a permanent and complete recovery. Dr. Morton states, in one of his earlier reports, that of the 15 cases treated by his method, 12 were successful and 3 fatal, and that all his own lumbar cases have hitherto been fortunate. In successful cases treated by Morton's method, the tumor soon shrivels up and becomes flat. In some of his cases only one injection was required.

The rules for the injection of Morton's fluid are similar to those given by Brainard. A small quantity of fluid is withdrawn, and about half a drachm of the Iodo-Glycerine solution is injected. The puncture is sealed with collodion. Pressure is applied. When the sac refills, the injection is repeated. Medical literature for the past ten years has abounded in reports of cases where Morton's method has been tried. The London committee seem to have been justified in their favourable recommendation. They advise a careful selection of cases, and urge that it is foolish to practise these injections when, from the presence of grave marasmus, or a marked condition of hydrocephalus, even the cure of spina bifida would not offer a chance of materially benefiting the patient. The treatment certainly commends itself for its simplicity and ease of application. (E. P. Hurd, M.D.)

Recently quite a variety of operations have been performed for the radical cure of spina bifida which I cannot describe for want of space in my present work.

SPLENIC ENLARGEMENT OR HYPERTROPHY.

1. **Ergot.**—Dr. J. J. Jones, of Little Rock, Ark., reports the case of a man, aged 28, who suffered from malarial fever and an enlarged spleen—so large, indeed, that a physician who saw him in consultation advised Dr. Jones “to detach the man from the spleen, as the best mode of curing it.” **Ext. Ergotæ Fl.** was injected under the skin to the extent of half a dozen doses of eight drops on successive days, with the effect of reducing the spleen to respectable size and curing the patient. Injection of Ergotine will produce the same beneficial result.

2. **Strychnine.**—20 drops of a $\frac{1}{2}$ to $\frac{3}{4}$ per cent. solution of Sulphate of Strychnine daily injected into the subcutaneous tissue over the spleen reduces the enlargement produced by malaria.

3. **Splenic Pills.**—A pill composed of *Alium Sativum* (Garlic), *Aloes Soc.* and *Ferri Sulph.* is recommended in cases of enlarged spleen.

4. *R. Quinn. Sulph., Ferri Sulph.,* â â. grs. 3, *Pv. Jalapæ Co., Pv. Rhei,* â â. grs. 18, *Tr. Calumbæ* drs. $1\frac{1}{2}$, *Aquæ Menthæ Pip.* ad ozs. 6. *M. oz. 1 t. i. d.* for enlargement of spleen.

5. *Ammon. Fluoride* 41, *Arsenic,* *Calotrop. Gig.* (root-park). *Carlsbad salts,* *Cerasein,* *Chicor. Int., Conium, Ergotine* 249 (2.), *Grindel. Squar.* 312, *Hydrastis Can.* 343, *Jurubeba,* 430, *Moringa Pteryg.* (root-bark), *Quin. Fluroide* 594, *Pot. Bromide, Quinoidin* 601 (1.), (2.), *Resorcine* 607 (3.).

SPRAIN.

1. A new method of treatment is as follows :—The ordinary brick clay, free from gravel, dried, and finely pulverized in a mortar, and then mixed with water so as to form a thick paste, is spread on muslin to the depth of one-fourth of an inch, and applied round the part and over this a rubber roller bandage just tightly enough to keep the dressing from shifting and to retain the moisture. At the end of 24 or 36 hours the dressing must be renewed. Dr. Scherer reports a number of cases of sprain in which this treatment was used and in which cure resulted, in what is stated to have been severe sprains in from 8 to 10 days while the pain in 11 cases was relieved after 24 hours' application.

2. *Acetum*, *Acid Acetic Dil.*, *Arnica*, *Eucalyptine* 265, *Hamelis* 321, *Hazeline* 322, *Lin. Sapon, Co.*, *Ol. Pini Pumil* 526, *Pinol Ext.*, *Sodii Chloride* (fomentation), *Sp. Vini Rect.*

SYPHILIS.

1. **The Essential Principles in the Treatment of Constitutional Syphilis.**—Dr. Robert S. Wainewright gives three methods of treating the earlier stages of syphilis: 1. **The radical cure, or Hutchinson's plan:** *small doses of mercury* are given for a very prolonged period, with a view to prevent the appearance of tertiary and even secondary symptoms. 2. **The ordinary London plan:** treat the symptoms of syphilis as they arise by the internal administration of Mercury. 3. **The expectant, or Edinburgh plan:** *use only local applications to cure the earlier syphilitic manifestations, and avoid giving mercury internally.* This he thinks the best method of treatment. The **tertiary stage** of syphilis should be treated by very large doses of **Potassium Iodide** (30 to 60 grs. t. i. d.).

Addition of 15 grs. of **Pot. Acetate** in doses of 15 grs. enables Iodide to be borne much better than by itself. Generally 10 to 20 or 30 grs. per day are enough of Iodide. Give alternate dose of Pot. Iodide with **Ferri Iodide** especially in debilitated patients. *Large doses of Iodide are not followed by coryza as the smaller doses,* such as from 3 to 5 grs. For further, *Vide* pg. 381 (3.) and 382 (5.).

2. **Treatment by Mercury from practice of 12 year's experience at the Lock Hospital.**—

Of all the syphilitic rashes, the most evident, most persistent and difficult to combat is **vesicular syphilide**. It most frequently occurred in light haired women who drank large quantities of wines as distinguished from spirits. The vesicular may be associated with an early **tubercular syphilide** and this usually in dark haired people during cold weather and in the underfed and underclothed patients of anxious temperament. In the *first* of these two classes **Green Iodide with Donovan's Solution**, *in large doses*, was most valuable; in the *second* class the inunction of the **German preparation of blue ointment** has excelled all other methods of treatment. In

billiard makers, some actors, barmaids, actresses and commercial travellers, who drink freely and sit up late, the syphilitic rash is angry, excessively red and marked. In spite of diarrhoea give *Green Iodide in large doses. Donovan's solution, with Soda and Iodide of Sodium* will assist. In those who drink and never take care of themselves *Green Iodide was next best to inunction.* The typical case for *Green Iodide* would be a light haired degenerated lady who sits up all night playing piano at suburban parties, who eats but little but refreshes herself frequently and takes a little Brandy before retiring to rest.

Large syphilitic testicles, recondary gummata and syphilitic nervous disease may yield by magic to **inunction.** **Inunction** is most useful in the early stages with healthy light haired abstemious patients with a **primary sore** and the **German Ointment** will almost certainly cure the distracted married man who has bad **syphilitic lumps** for many years. In most cases of **primary ulcers** especially in cases of **Phimosis** with well marked **induration**, first spread about a drachm of *strong mercurial ointment on a piece of lint* and wrap this lint round the penis near the abdomen and change this every night and morning. It is remarkable that the ointment does not irritate the skin of penis as much as it does that of other parts of body.

Calomel vapour is useful for **sore on penis** whether it be smooth, flat indolent button &c. The vapour is also valuable for **ulceration of extremities**, especially the legs, syphilitic in their origin but frequently associated with a weak state of constitution or still more with a too rapid or indiscriminate administration of Mercury.

3. **For general mercurial treatment**, 2 grs. each of Hydrarg. c. Creta and Dover's powder and q. s. of Ext. Hyosc. makes a better pill. When griping is complained of by these pills, they are changed for one with Blue pill grs. 3 and Opium gr. $\frac{1}{4}$.

4. **M. Quinquand's Calomel Plaster**:—R Ordinary adhesive plaster ozs. 6, Calomel ozs. $1\frac{1}{2}$, Ol. Ricini drs. 4. Previous to application the skin over the region should be washed with soap, in order to secure perfect cutaneous function. A piece of plaster about 3 inches square is applied and left on for 8 days; it is then removed to be reapplied after another 8 days. With this method of treatment good

results were obtained as when the mercury was administered by the mouth or subcutaneously. This simple and cheap remedy may prove a considerable advantage to the poorer classes who cannot afford the expense of treatment.

Or, Rub 1,000 grms. of Calomel with 300 of Castor Oil and mix with 3,000 grms. of Diachylon Plaster. Spread this mass on linen to yield 14 strips, 3 metres long by 0.20 wide each; a square of $2\frac{1}{2}$ inches contains about 18 grs. of Calomel. Apply a square of this size in the *splenic region and renew every 8 or 10 days*. Elimination of mercury in urine is noticed on 4th day of the application. *This new method is clean and efficient* and the author has seen **Papulo-Tubercular Syphiloderms** resolve in 8 or 10 days.

Ricord's Pills.—R Hyd. Iodidi Vir. grms. 3, Ext. Lactuæ grms. 3, Ext. Opii grm. 1, Ext. Conii grms. 5. M. ft. mass et divide in pill. 60. Dose: One to three in the day. For constitutional syphilis.

5. **Magic Cream.**—Hydrarg. Ammon. 1 part, Zinc Oxide 3 parts, mixed and rubbed with Glycerine and Lard to make a stiff cream with a few drops of Olive Oil. Or, Ung. Hydrarg. Ammon. dr. 1, Ung. Zinci Oxidi drs. 3 with a little Glycerine is a ready method.

6. **Chromic Acid solution** (gr. 10 to oz. 1 of water) painted on 3 or 4 times a day, is a specific local application for **secondary syphilitic affections** as *ulcers on the tongue and mucous membrane of the mouth, mucous tubercles and condylomata*; also useful in *secondary affections of tonsils and palate*.

7. In **ulcerated throat and tongue** local application of **Pot. Chlorate** is very useful. In *obstinate cases* apply **Nitrate of Silver**, either solid or in strong solution. Or apply **Hydrag. Perchl.** solution of the strength of 2 to 4 grs. in 8 ozs. of water. **Iodoform** combined with **Starch** in equal parts and blown on affected surface is an excellent application in several cases *very incurable by ordinary treatment*. Where there is much *fætor*, **Liq. Sodæ Chlorinatæ** drs. 4 to ozs. 8 of water makes an excellent gargle.

8. R Corr. Subl. grs. 2, Acid Nitric Dil. mins. 30, Tr. Myrrhæ oz. 1, Aquæ od ozs. 8 M. To be used as a gargle for **syphilitic affections of the mouth**.

9. R. Linimenti Opii, Lin. Belladonnæ, Lin. Hydrarg., â â oz. 1. M.
To be rubbed in **syphilitic tubercles, nodes, &c.**
10. R Acid Salicyl. grms. 30, Ext. Cannab. Ind. grms. 10, Colodion oz. $\frac{1}{2}$ M. To be applied every other day. The remedy is slow in operation and may have to be used every day. For **venereal warts.**
11. R Iodoform. grs. 5, Ol. Eucalypt. dr. $\frac{1}{2}$, Vinolia oz. 1. M. ft. ung. For syphilitic sores, nasal sores, &c.
12. *Vide* pg. 1100 to 1101.

12. **Other remedies for various syphilitic manifestations** :—Acid Hydriodic, Aristol 753, Arsenic, Auri et Sod. Chloride 77, *Ayer's Sarsaparilla* 890, *Berberis Aquif.* (Report 5, 6, 7) 85, Boldo., *Burdock*, *Caroba* 147, *Cascara Amarga* (Cases 1 to 4) 148, Condurango, Conium, Corydalin, Ferri Iodide, Hydrarg. Carbolas 330, Hyd. Formamid. 332, Hyd. Iod. Rub., Hyd. Oleate, 335, 517, *Hyd. Perchl.*, Hyd. Subchl., Hyd. Salicyl. 338, *Hyd. Tannas* 340 to 1, Hydrocotyle As. 353, *Iodoform* 389 to 90, *Iodol* 395, Iridin, *Jaborandi* 405 (11.), Juglans Nigra 429, Kola nut 443, Liq. Potassæ, *Manaca* 473, *McDade's Compound* 482, Menispermum C., Mercury Sozoiodol 670, Mezereon, Opium, *Papain* 542, Phosphorus, *Phytolacca*, *Pil. Plummeri*, Pot. Bichrom., Pot. Iodide, Pulsatilla 582, Quinine 597 (6), *Resorcine* 610 (11.), Sanitas Fluid 648, Sanitas Oil 644 (10.), *Sarsa Off.*, Sassafras, Sigesbeckia 656. 657, Sod. Hypo-sulph., *Stillingia* 685 to 6, Sublimate Soap 892, *Trifolium Comp.*, 713, Xanthoxylum.

TETANUS.

1. **Main indications of treatment are:** (a) *Subdue spasms* by means tending as little as possible to exhaust the nervous power. (b.) To give powers of life all possible support throughout the trial. (c,) Using *hemp and quinine* (*vide* below) and feeding the patient night and day. (d.) Surround the beds with *screens* and pour *Chloroform* very freely on the pillow, so as to keep the sufferer constantly in an atmosphere strongly charged with Chloroform. (e.) *Maintain the free action of the bowels.*

2. Sir Joseph Fayrer employed *Opium smoking, Hemp, Chloroform, Quinine and a nutritious diet, free action of the bowels* being maintained. Chloral Hydrate was not successful with him.

3. Smoking of 15 grs. of dried **Gunjah (Cannabis)** leaves alone or mixed with twice as much of **tobacco** leaf meshed together, and watching the patient's movement, is recommended. On the appearance of a clonic spasm he is made to smoke the pipe until the leaves are burnt to ashes, on which the muscles, instantly relax, patient shuts his eyes and falls asleep. This is carried on day and night uninterruptedly. Recovery takes place in from 7 days to 6 weeks.

4. **For Rheumatic Tetanus** produced by exposure to cold as dipping the feet in cold water during the pit or mine business &c. the following was found beneficial :—

R Paraldehyde drs. $1\frac{1}{2}$. Aquæ ozs. $3\frac{1}{2}$. M. Taken in 2 doses with 2 hours interval. The patient was completely well under Paraldehyde after Chloral had failed.

5. **Traumatic Tetanus.**—A young man after exposure to cold had a slight cut of the thumb, and was treated as follows :

Eserine in doses of 15/100 gr. was administered at first every hour, and then at longer intervals with the use of **icebag to the spine** and **Morphia at night and covering the thumb with warm moist cloths**. At the end of 3rd day improvement was well marked. **Chloroform** was employed to shorten the *convulsions*.

6. Aconitine, *Allyl Tribrom.* Amyl Nitr., *Antipyrin*, *Atropine*, *Belladonna*, Bromides, *Coninæ Hydrobrom.*, *Curara 757*, *Gelsemium 297 (c.)*, *Guachamaca 313*, *Hyosc. Hydrobrom.*, *Jaborandi*, *Lobelia*, *Methylal 496 (5.)*, *Pelletierine Sulph. 586*, *Pilocarpine 408*, *Resorcine 608*, *Strophanthus*, *Sulphur 699 (7.)*.

THROAT, DISEASES OF, RELAXED SORE THROAT.

Acid Boracic 7, A. Carbolic gargle 9, Acid Sulphurous spray (diluted with 1 or 2 parts of water), Acid Tannic spray (60 grs. in 10 ozs. of rose water), *Capsicum 142*, *Ferri Perchl. 286*, *Gum*

Rubrum 268 (9.), *Hamamelis* 321, Hydrogen Peroxide, *Mangifera* Ind. 478, *Papain* 542, *Puuica* Gran. 584 (3.) *Sanitas* Fluid 647 (4.).
Vide pg. 1147 (5.)

ULCERATED THROAT.

Acid Boracic, A. Chromic 10, Argenti Nitr., *Eucalyptus* 259 (4.), *Eucalyptine* 265, Ferri Perchl. 286, *Hamamelis* 321, Hydrogen Peroxide, Iodol 395, Menthol, *Papain* 542, Pot. Bichrom. 573, Pot. Chlorate 574, Salol 633, *Sanitas* Fluid, Sod. Sozoiodol 671. *Vide* F. 1, pg. 1058.

ECZEMA OF THE THROAT.

Resorcine 609 (9.)

TINEA TONSURANS (RINGWORM OF THE SCALP).

1. (Sp.) Dr. J. Y. Simpson recommends the following treatment which he has found most useful in ringworm of the scalp and body :—

Cut the hair short and wash the scalp well with green soap, and then apply the following solution with a camel's hair brush :

R Hydrarg. Perchl. grs. 2, **Collodii** oz. 1. M.

This treatmet he recommends for four reasons : (1.) The Corr. Subl. *destroys the fungi*. (2.) The Ether of the Collodion *penetrates to the root of the hair*, conveying the Corr. Subl. to the seat of the disease. (3.) The film formed by the Collodion *shuts off the supply of oxygen to the fungi* and thus helps destroy them. (4.) And the film also *prevents the hairs from flying about through the atmosphere* and carrying the germs to other persons.

He has treated a large number of cases with this solution with *most excellent results*.

2. (Sp.) **Coster's Paste**.—It consists of Iodine drs. 2 dissolved in Light Oil of Wood Tar (Ol. Picis Rect.) 1 oz. A chemical combination beidg formed, the irritating properties of free Iodine are got rid of. The paste may also be prepared from Creasote or Huile de Cade, but the resulting compounds are more irritating.

Shake the bottle and apply with a stiff brush. After several days remove the scab which has formed, cleanse the part first with oil, and then soap and warm water, dry, and apply more paste. It is an excellent application for ringworm of the scalp.

3. R Thymol dr. $\frac{1}{2}$, Chloroform drs. 2, Ol. Olivæ drs. 6. M.
To be rubbed gently in ringworm of the scalp.

An ointment composed of equal parts of Thymol and Lard is also recommended. Melted together in a water-bath, the two substances mix perfectly.

4. Acid Acetic, A. Chrysophanic, A. Salicylic 19, Antim. Tart. Ung., Aristol 754, Arsenici Iodidi, Calotropis Gig. (juice), Cocculus Ind. 200, *Hydronaphthol* 357, Hydroxylamin 357, Ichthyol, Lanolin 455, Menthol 491, Ol. Cupri 516, Picis Ung., Picrotoxin 200, Sanitas Oil 644 (10.)

TINEA CIRCINATA (RINGWORM OF THE BODY.)

Most common seats are face, neck, forearms and back of hands. Nurses or attendants on young animals which are affected (calves and young horses) get the disease on their forearms.

Treatment.—If the patch is painted once or twice with Tr. Iodine and well scrubbed with soft soap, the disease is cured. To make sure the patient may be given Ung. Hydrarg. Ammon. to be rubbed in once a day. Other observers also prefer Tr. Iodine; and should be applied over a space extending $\frac{3}{8}$ ths of an inch beyond the ring every morning for 3 days, then at intervals of 2 days twice.

2. R Pot. Sulphocyanidi grs. 240, Glycerini fl. oz. 1, Aquæ fl. ozs. 7. M. To be well rubbed into the diseased patch, after careful washing and drying, and also applied on lint. (Dr. Gee).

3. F. 1. Tinea Tonsurans. F. 2, Tinea Versicolor.

4. Acid Chrysophanic, B. Naphthol. Camph. Phenique, Creasote, Ichthyol, Jatropha Cur. juice, Liq. Sodii Ethyl. 662, Oleat. Cupri 516, Naphthalin, Papaya juice 542 (9.), Phenyle (20 per cent solution), Sanitas Oil 644 (10), Siegesbeckia 657, Sulphur.

INGUINAL, TROPICAL, CHINESE OR BURMESE RINGWORM, WASHERMAN'S OR DHOBIE'S ITCH.

It is most common in the tropics especially amongst natives of Ceylon, Burma, West India Islands and the Pacific Islands. The usual situation is upon the inner surface of the thigh and perineum, scrotum and buttocks and upon the pubes ; also be seen about the axillæ and calves of the legs. From these parts of the body where the folds of the skin come together, a secretion is poured out which affords a pabulum to the fungus which is increased by tropical heat and moisture. Living in damp situations or houses, sleeping in damp sheets are common causes. It is a most troublesome and obstinate disorder to cure.

Treatment.—1. **Oleate of Mercury** (20 per cent.) is a valuable remedy or **Liq. Carbonis Detergens** painted over the affected parts is effectual. **Sulphur and Tar** application is also good and **Goa powder** is much used in India with good results as stated. (*Vide* pg. 170). **Carbolic Acid** with a few grs. of **Hydr. Oxid. Rub.** is used also with success. **Iodine and Corr. Subl.** are also useful.

2. Kaposi recommends the application of a 1 per cent. solution of **Naphthol** in Alcohol and a 5 per cent. Naphthol Ointment.

3. **Wilkinson's Ointment.**—R Sulph. Subl., Ol. Cadini, â â. drs. 4, Saponis Viride, Adepis, â â. oz. 1, Cretæ Prep. drs. 2. M. ft. ungt. To be rubbed in after washing twice daily with soft soap.

4. R Acid Carbolic, Ung. Hydr. Nitr., Ung. Sulph., â â. partes equales. M. I used it freely with excellent results, applied every night and morning. It causes no pain. For children under 10, I double the sulphur ointment. (H. A. Smith, M.D.).

5. (Ind.) **Butea Frondosa** seed (Guj.—Palasa papado) mixed with lemon juice and rubbed in acts almost as a specific.

6. Acid Chrysophanic, Camph. Phenique, Chaulmoogra Oil 159, Creasote, Ol. Cupri 516, Papaya juico 542 (9.), Phenyle (20 per cent. solution), Siegesbeckia 657, Turpentine.

TINEA SYCOSIS (PARASITIC SYCOSIS.)

When trichophyton attacks hairs of the beard it produces a disease called Parasitic Sycosis. It is common in Paris and is supposed to be carried by the razor of barber. It is associated with erythematous desquamating circles and produces more exuberant mushroom-like tubercles than the non-parasitic variety.

Treatment.—1. Paint the part with a 1 per cent solution of **Corr. Subl.** or use the soap composed of **Naphthol, Sulphur, Alcohol** or application of **Acetic Acid** with the addition of dry **Sulphur** immediately afterwards.

2. Dr. H. V. Hebra recommends the **modified Wilkinson's ointment** as an excellent application. The formula is :—

R Sulph. Subl., Ol. Cadini, â â. drs. 4, Sapo. Mollis, Adepis, â â. oz. 1, Cretæ Prep. drs. $2\frac{1}{2}$. M. ft. ungt.

The hair on and around the affected part is cut short and the scabs and crusts removed by the application of any simple ointment. After 24 hours the affected part is soaped, shaved and thoroughly bruised with the Wilkinson's ointment. It is then covered with flannel and bandage applied. The dressing is changed daily and the ointment washed off and all the hairs which are surrounded by pustules are epilated and pus squeezed out. This is continued so long as pustules form, but even in obstinate cases this ceases in about 10 to 14 days. In slighter cases there are no pustules after the first few days. The part is then shaved only when necessary for the proper application of the ointment. The tender scaling skin soon acquires, by the application of **Oxide of Zinc** ointment prepared with Vaseline, its usual smoothness and appearance.

3. R Acid Tannic grs. 75, Sulphur drs. $2\frac{1}{2}$, Zinci Oxidi drs. $1\frac{1}{2}$, Amyli drs. $1\frac{1}{2}$, Vaseline ozs. $1\frac{1}{2}$. M. ft. ungt. After the daily shaving and once or twice besides, the patient should rub into the skin the ointment.

4. F. 2, T. Circinata; F. 2, T. Versicolor; F. 1, T. Favosa.

5. Aristol 784, Creasotë, Calomel, Hydroxylamin 357, Lanolin, Ol. Bismuth 516, Ol. Cupri 516, Oleum Declinæ 521, Pot. Chloras 575, Salicylic Soap 891, Siegesbeckia 657, Uug. Hydr. Nitr.

TINEA TRICHOPHYTINA UNGUIUM.

The ringworm fungus often attacks the nails. The nail is brittle, opaque, laminated, thickened and soft, particularly at its free border, under which the mass, more or less thick, of softened broken down nail substance can be seen. The affection is obstinate.

Treatment.—The nail should be scraped very thin and if necessary, Liq. Potassæ applied with a brush to soften it. When that is done, Creasote or Acetic Acid, may be dabbed over the part or better still a solution of Hydrarg. Perchl. (2 to 5 grs. to 1 oz.) dissolved in alcohol and water, applied twice or thrice daily.

TINEA KERION.

Oleat. Cupri 516, and other parasitocides mentioned at pg. 1225 (4.).

TINEA FAVOSA (PORRIGO FAVOSA).

1. R Hydrarg. Perchl. grs. 8 to 16, Aquæ Sambuci fl. ozs. 8. M.
2. Ol. Cadini 520, Oleat. Cupri 516, Pot. Chloras 575, Ung. Hydr. Ammon., Ung. Hydr. Nitr.

TINEA VERSICOLOR (CHLOASMA).

1. R Hydr. Perchl. grs. 4, Acidi Nitrici Dil. mins. 30, Sp. Rect. fl. drs. 4, Aquæ Sambuci ad ozs. 8. M. To be sponged on the spots and rough surfaces night and morning.
2. R Acidi Sulphurosi, Glycerini, â â. fl. oz. 1. M. Should be painted on the affected parts.
3. F. 1, pg. 1168.
4. Acid Arsenious (I.), Lanolin, Ol. Cupri 516, Siegesbeckia 657, Sodæ Hyposulphis.

TONGUE, DISEASES OF, CRACKED, FISSURED AND ULCERATED TONGUE.

1. F. 1, 2, pg. 1058.
2. Acid Boric 7, Eucalyptine 265, Hamamelis 321, Hazeline, Papain 542, Pot. Chloras 574.

TONSILLITIS, QUINSY, OR INFLAMMATORY SORE THROAT.

1. (Sp.) The effervescing citrates will be found useful in allaying not only this, but all other kinds of glandular inflammations and I order **Pot. Bicarb**, grs. 20 to be taken with **Acid Citric** grs. 15 every 4 hours in a state of effervescence. **Guaiaecum** which has long been known to be beneficial in throat cases, is best given in the form of **lozenges** made up with *black current jam*; one of these lozenges to be sucked frequently.

Iodine when applied locally in cases of glandular inflammations, is known either to reduce enlargement or to hasten suppuration, according to the stage in which it exists; and **gargle** containing from 20 to 25 mins. of the tincture to the ounce of water will be found particularly useful. This may be used by taking a little in the mouth and shaking the head from side to side. **Port wine** is an essential part of treatment and it is necessary for the patient to take from 4 to 6 ozs. in the course of the day, besides plenty of **beef-tea** and **milk**. By this means resolution is almost always brought about and the patients are, with scarcely a single exception, able to resume their usual duties about the fourth day. I would particularly urge upon those who are willing to give the above mentioned method of treatment a trial not to be discouraged if the patients complain of feeling no better or even worse, for the first 2 days, but persist with it all the same and they will be certain to meet with success they and their patients desire. Though the bowels are almost always confined it is not advisable to administer aperients, since as soon as recovery takes place they are moved as regularly as possible, without any extraneous assistance. *When suppuration has commenced in the tonsils* (which may be looked for about the 6th day and made out by great *throbbing in the ear* in the affected side) it is best to omit the effervescing citrates and *guaiaecum lozenges* and depend upon the iodine gargle together with port wine and beef tea. Suppuration is by this means hastened and suffering curtailed. (F. P. Atkinson, M.D.).

2. (Sp.) R Tr. Aconiti drs. 2, Tr. Guaiaci drs. 4, Glycerini ad. oz. 1. M. Dose : 20 mins. every hour till recovery takes place. This is specific for **tonsillitis occuring in infants**. *Aconite* is well borne by the infants and young children ; but a stimulant as **Ammonia** is always prescribed with *Aconite* for young children and **Strychnia** for older children.

3. (Sp.) By the use of **Veratrum Viride** 90 p. c. of cases of tonsillitis recover, while by ordinary methods of treatment only 10 p. c. recover. To accomplish this, treatment must be begun with 24 or 36 hours of the onset of the attack, and before the congestion and inflammation have progressed to molecular impairment. He gives 4 to 5 drops of Tr. Veratri Viridis ever 3 hours. Often 3 or 4 doses will stop the congestion and produce sweating and cause permanet relief. When nausea occurs as a symptom, $\frac{1}{8}$ gr. of **Morphia** may be added to each dose of Veratrum (Dr. Hudson).

4. Tonsillitis bears same relation to *acute rheumatism*. Open bowels by *Mist. Sennæ Co.*, give *milk diet* and give following :—

R Sodii Salicyl. grs. 10 to 15, Tr. Aurantii mins. 10, Aquæ ad oz. 1. M. Every 4 hours. When tonsillitis subsides give *Salicylate* in smaller doses, &c.

5. **Antifebrine** in doses of 4 grs. every 2 or 3 hours is very effective. Twelve cases have been cured by it. Within a short time after its administration, all headache, or pain on swallowing or mastication disappears. It is similarly beneficial in diphtheria and scarlatinal and other forms of sore throat. The drug has not any marked influence on the course of the disease, but it rapidly, in about a quarter of an hour removes these subjective symptoms. No disagreeable accessory symptoms were ever observed.

6. C. M. Fenn, of San Diego, testifies to the prompt effect of **Sodium Bisulphite** in aborting many cases of tonsillitis and coryza. He prescribes a saturated solution, and prefers the English preparation. He gives tablespoonful doses every half hour or two for 12 hours, and then every three or four hours for 12 or 24 hours longer. He seldom finds it necessary to continue the remedy beyond 48 hours.

7. R Chloral hydrat. grs. 3, Glycerini dr. $\frac{1}{2}$, Aquæ oz. 1. M. ft. gargarisma.

8. F. 21, pg. 845.

9. Acid Camphoric, Chekan, Cocaine 192 (*c*), Ether by inhalation 27, Papain 565, Phytolacca 565 (*±*), Resorcine 609, Salol 632, Sod. Bicarb. 660.

Acid Chromic 10, Argenti Nitr. solution (10 grs. to oz. 1), Hydr. c. Creta 331, Pot. Bichrom. 573, Sod. Bicarb. 660.

ULCERATION OF THE TONSILS.

1. R Tr. Iodini drs. 2, Aquæ oz. 5. M. ft. gargarisma.

2. Eucalyptine 265. For further, *vide* Ulceration of the Throat.

TOXICOLOGY.

General Treatment of Poisoning.

1. Narcotic Poisoning.—First remove the poison that may be within reach by washing out the stomach by means of the syphon tube which is at once more convenient and thorough than the stomach pump. If neither stomach pump nor syphon to be at hand a tablespoonful of mustard in half pint of tepid water or 20 grs. of Zinc Sulphate in a similar quantity of water may be given. For suicidal cases these remedies are impossible and for these as well as other cases hypodermic injection of $\frac{1}{10}$ gr. of Apomorphia is necessary.. By any of these methods the last trace of drugs may be removed from the stomach. If the syphon or stomach pump has been employed a pint of strong black Coffee should be introduced before it is withdrawn or if neither can be used it can be given by the rectum. The next thing is to keep the vital centre in a state of activity and do nothing that can in any way cause exhaustion of any part of the system. Keep the patient awake by asking him questions or using commands in a loud voice. If this is not enough tap the forehead with tips of fingers, pinch arms and legs or prick skin with needles. If these are not sufficient to prevent appearance of sleep, cold douche may be used but it should be as far as possible avoided. A far more efficient mode of rousing patient is to apply mustard

leaves to calves and induced or interrupted cursive may be used. *The method of making him walk about and thus keep him awake should be condemned* as it exhausts the patients; also *alcoholic stimulants to be denounced* because they aid the action of narcotics and must be avoided.

Keep the patient in an **horizontal position** and watch **respirations** and if there be any sign of *irregularity, shallowness or inequality of breathing* then 1/100th of 1/50th of a grain of **Sulphate of Strychnine** should be administered **subcutaneously** and repeated at intervals of an hour, 2 or 3 times. If in spite of strychnine, respirations become feeble or cease artificial respiration by **Sylvester's method** (*Vide* pg. 1129) be used promptly and should be persisted in until respiration has been carried on by natural means or the heart has for $\frac{1}{2}$ hour ceased to beat. The action of Strychnine as a stimulant to motor centres of heart may be assisted by employing **Ammonia or Ether**. While the spasms of arterioles caused by deficient oxygenation of blood may be checked by **Amyl Nitrite**. Strychnine is also useful in cases of dangers from failure of respiratory centre caused by general æsthetics.

2. **When the nature of the poison is unknown**, the following will be a harmless, yet to most persons, efficacious antidote :—

R Magnesiæ, Carbonis Ligni, Ferri Oxidi Hydrati, â â. equal quantities, Aquæ q. s. Administer *ad libitum*. Or, the following, (J. Jeannel's) :

Persulphate of Iron solution (sp. gr. 1.45) 100 parts, Water 800 parts, Calcined Magnesia 80 parts, Animal Charcoal 40 parts.

The iron solution should be kept in a separate bottle from the mixture of the other three substances, and should be added to it immediately before using. This mixture acts as a *perfect antidote to Arsenic, and is preferable to ferric hydrate*, because the latter deteriorates upon keeping. It also acts as *perfect antidote for compounds of Zinc, and Digitaline*, and nearly so for those of *Copper*. It delays considerably the action of salts of *Morphia and Strychnia*, and to a slight extent that of compounds of *Mercury*. It has *no virtue in counteracting the effect of Cyanide of Mercury, Tartar Emetic, Hydrocyanic Acid, Phosphorus, or the Caustic Alkalies*.

3. A freshly prepared mixture of the Sulphide of Iron, Magnesia, and Sulphate of Sodium, acts as a perfect antidote for salts of Copper, Corrosive Sublimate and Cyanide of Mercury.

4. Dr. Bellini, Professor of Toxicology at the Royal Institute at Florence, recommends **Iodide of Starch** as a valuable *antidote* in poisoning by *Alkaline and Earthy Sulphides, Caustic Alkalies and Ammonia, and the Vegetable Alkalies*. In poisoning by *Alkaline or Earthy Sulphides*, he thinks it preferable to all other antidotes; in poisoning by *Caustic Alkalies*, it is applicable when acid drinks are not at hand.

5. The following preparations are also employed in the treatment of poisoning by various drugs which I am just going to describe:—

Hydromel Infantum.—R Mist. Sennæ Co. parts 3, Syrup of Manna part 1.

Linctus Oleosus.—R Acaciæ Pv. 1 part, Aquæ Amygd. Amar. Dil., Ol. Amygd. Expres., â â. 2 parts, Syr. Althææ 3 parts.

Magnesia Usta in Aqua.—R Magnesia 1 part, Water 6 parts.

6. Do not administer an emetic, if poisoned patient has already vomited freely.

POISONS AND ANTIDOTES.

POISONS.	ANTIDOTES.
Acid Acetic.	Give freely Charcoal, whiting, or whitewash scraped off ceiling or wall, in water. Morphine hypod. 1018.
Acid Carbolic. Blistering Fluid.	1. An emetic of. Zinc Sulphate 15 grs. in water, or Apomorphia hypod. (<i>Vide</i> pg. 1015), or stomach tube cautiously. Introduce, through the tube, or by the mouth if possible, Epsom Salts or any Sulphate, preferably Sodæ Sulph. (<i>Vide</i> pg. 8). The following is also serviceable when the

POISONS.

ANTIDOTES.

patient is seen in time : R Acid Sulph. Dil. drs. $2\frac{1}{2}$, Syr. Acaciæ dr. 1, Syr. Simplex drs. $7\frac{1}{2}$. M. A tablespoonful every hour.

Then : Magn. Ust. in Aq. 50 drs., of which $\frac{1}{2}$ to be given at once, then a tablespoonful every $\frac{1}{4}$ hour ; or still better *Saccharated Solution of Lime* (ceiling plaster will do), and 6 ozs. of *sugar* in $\frac{1}{2}$ pint of *milk* with *albumen* or *raw eggs* be promptly given. Alternately with this use Linctus Oleos (q. v.) drs. 50, of which a tablespoonful to be given every $\frac{1}{4}$ hour. *Caffeine*, or *strong coffee* or *tea*, to prevent narcotism. *Amyl Nitrite inhalations*.

☞ If taken internally, by mistake, **Sweet Oil and Castor Oil** should be at once administered in large doses, and a medical man sent for. The oil becomes mixed with the Carbolic Acid and protects the coats of the stomach and allows the acid to pass out of the rectum.


Acid Chromic and Chromates.

Emetics. Then : R Pulv. Ferri grs. 75, Linct. Oleos, Syr. Simpl., â â. drs. 12. M. Sig.—Shake well, and give a dessertspoonful every 5 minutes, and then 2 tablespoonfuls of water.

Acid Hydrochloric.

Magn. Ust. in Aq. drs. 50, of which $\frac{1}{2}$ to be given at once, then a tablespoonful every 5 minutes ; or Soda or Potash Bicarb, Chalk or Whiting, or Whitewash scraped off wall, in water ; in the absence of these, Soap-Suds or diluted Washing Soda will do. Alternating with any of the above give 2 tablespoonfuls every 5 minutes of the following emulsion : Ol. Amygd. Dulc. or Ol. Olivæ drs. 5, P. v. Acaciæ drs. $2\frac{1}{2}$, Aquæ Dest. drs. 50, Syr. Simpl. drs. 25. M. Also give white of egg and milk, followed by enemata of beef tea and brandy, with Tr. Opii to prevent collapse. Morphine hypod. 1018.

POISONS.	ANTIDOTES.	
Acid Hydrocyanic and Cyanides.	An emetic of Zinc Sulph., of mustard, common salt, or Apomorphia 67 ; or stomach-	or of pump.
	Fresh air and artificial respiration immediately, with alternate cold and warm affusions to spine. Inhalations of Ammonia and Chlorine. Ether hypod.	in immediate affusions to spine. Inhalations of Ammonia and Chlorine. Ether hypod.
	Atropine hypod. in very small doses (gr. 1/75th. ?) A man in Halle recently took a considerable quantity of cyanide of potassium in solution, for the purpose of committing suicide. In order to be quite sure of attaining his object he also swallowed a solution of atropine. He was attacked by fainting fits, in consequence of which he was taken to the hospital ; but on the following day, though no other antidote had been given, he was quite well. The <i>Pharmaceutische Zeitung</i> and the <i>Deutsche Medicinische Zeitung</i> , which publish the case, mention that atropine has before been recommended as an antidote in cases of poisoning by cyanide of potassium.	
Acid Nitric. Acid Osmic. Acid Oxalic & Oxalates.	Freshly precipitated Oxide of Iron, with an Alkaline Carbonate, thus, 10 grs. Ferri Sulph., with 1 dr. Tr. of Iron and 1 oz. water, followed by 20 grs. Pot. Carb. dissolved in 1 oz. water. This will render insoluble 110 mins. of B. P. Acid.	
	Same as Hydrochloric Acid. (q. v.).	
	Inhalation of Sulphuretted Hydrogen, very cautiously.	
	R Calc. Carb. P _v . drs. 12½, Aquæ Dest. drs. 50. M. ½ at once ; then a tablesspoonful every 10 minutes. Half an hour later give :	
	R Aquæ Laxat. Vienn. drs. 12½, Sodii Sulph. drs. 2½. M. Take at once.	



POISONS.	ANTIDOTES.
<p> Acid Progallic. Acid Sulphuric. Acid Tartaric. Aconite. Aconitine. Neuraline. </p>	<p>  Oxalic Acid exerts a direct poisonous action on the muscular tissue (Heart). The addition therefore of a soluble lime salt to the circulating fluid, sufficient to precipitate the oxalic acid and thus to render the salt innocuous, will at once counteract the direct effect. It is proved by experiments on animals that in poisoning by Oxalic Acid or by a soluble oxalate, lime does not act as an antidote only in the stomach, but manifests its effects in the blood and tissues, and further, that the addition of a soluble lime salt to the circulation will speedily and fully restore functional activity to a tissue in which function is completely in abeyance. It is obvious that in practice we should employ soluble salts of lime, like the chloride, in preference to the insoluble, and that in great weakness of the heart transfusion with a fluid containing Calcium Chloride might be a life-giving expedient. A substance may destroy function and prove poisonous by withdrawing from the circulation a salt necessary to the carrying on of functional changes. Oxalic Acid greatly weakens heart's action by withdrawing mech lime from the blood. The antidote here is obviously lime. </p> <p> Chalk, whiting or whitewash, and magnesia are also useful ; give freely charcoal. </p> <p> <i>Vide</i> pg. 17. </p> <p> Same as Hydrochloric Acid, but Magnesia is preferred to chalk and no water to be used in these cases. </p> <p> Same as Acetic Acid. </p> <p> An emetic of Cupri Sulph. or Zinc Sulphate in water, or stomach tube. </p> <p> External and internal stimulants :— Sal. Volatile. Brandy and Digitalis hypod. or Dig- </p>


POISONS.	ANTIDOTES.
Excessive Ætheriza- tion.	<p>italine (<i>Vide</i> pg. 1017) ; also enema of Brandy and Digitalis combined. Atropine hypod. (<i>Vide</i> pg. 1015). Strychnine. Nitrite of Amyl to be inhaled freely. Aconitine 1015. Hot wet cloths to be laid over the heart. Animal charcoal.</p> <p>R Aquæ Ammon. 15 drops, Aquæ Dest. drs. 5. M. To be taken at one dose.</p> <p>R Aquæ Ammoniæ (or a smelling bottle) oz. 1. Sig.—For smelling.</p> <p>Cold water must be freely applied, and fresh air supplied. <i>Vide</i> Chloroform.</p>
Alcohol In- toxication.	<p>Apomorphia as an emetic. <i>Vide</i> pg. 67 and 1015.</p> <p>R Pepsin grs. 35, Acid Hydrochl. mins. 15, Aquæ Dest. ozs. 7. M. Tablespoonful every 5 minutes. Or :</p> <p>R Aquæ Ammon. mins. 10, Aquæ Dest. drs. 10, Syr. Simpl. drs. 2. M. Take at once.</p>
Alkali Car- bonates and Caustic Alkalies.	<p>Caffeine hypo. 1016. <i>Vide</i> pg. 812.</p> <p>R Acid Tartaric grs. 155, Aquæ Font. ozs. 25. M. Drink a tumblerful at once ; then every 5 minutes a dessertspoonful of Almond Oil, with 5 tablespoonful of the tartaric acid solution. This is sufficient for 100 grms, of a 5 p. c. solution of alkali. Vinegar ; lemon juice ; other dilute acids ; milk ; Oil. Duboisine 239. <i>Vide</i> pg. 1233 (4.)</p>
Alumen. Ammonia.	<p>Carbonates of Ammonium, Potassium, &c.</p> <p>R Acid Acet. Concent. drs. 2½. For smelling. Then :</p> <p>R Acet. crud drs. 5, Aquæ Dest. drs. 50, Syr. Simpl. drs. 5. M. Tablespoonful every 5 minutes.</p> <p>R Aceti Crudi drs. 12½, Aquæ Dest. drs. 50. M. Inhale warm. Cold washing.</p>


POISONS.	ANTIDOTES.
Amyl.	Hyponitrous ether (Squibb).
Amylene.	<i>Vide</i> Chloroform Inhalation.
Anilin Pre- parations.	R Emetics : Cupri Sulph., Zinc Sulph. or Apomorph. Then :
	R Magn. Ust. in Aq. drs. 50. Tablespoonful every half hour.
Antifebrin.	<i>Sulphate of Soda</i> draught, with <i>Coffee and Brandy</i> ; hypod. injection of <i>Camphor in Ether</i> and cold compresses to the head ; warmth to the extremities.
Antimonial Prepara- tions and Tartar Emetic.	Stomach tube to wash out the stomach.
	R Acid Tannic or Gallic grs. 45, Aquæ Dest. drs. 35, Syr. Althææ drs. 15. M. A tablespoonful every 5 minutes. Strong tea or coffee and other astringent infusions.
	Sal Volatile, frequently if collapse ; also Strychnine and digitaline ; also external stimulation by means of hot water, vigorous frictions &c. Opium and ice internally for gastrointestinal irritation ; morphia hypod. for abdominal pains 1016. Demulcent and albuminous drinks as milk, white of egg.
	Same as Mineral Acids.
Antimony Sesquil (Butter of Antimony).	
Argenti Nitræ and other Silver prepara- tions.	Emetics. Then : Solution of common salt, or sea water : R Sodii Chloridi drs. 5, Aquæ Comm. drs. 75. Give $\frac{1}{2}$ at once, and then a tablespoonful every $\frac{1}{2}$ hour. Between the doses give :
	R Mist. Oleosæ, Mist. Gummosæ, â â. drs. 40. Two tablespoonfuls every $\frac{1}{2}$ hour. Albumen ; milk ; barley water.


POISONS.	ANTIDOTES.
Arsenic and its compounds.	An emetic of ipecac., mustard, or common salt, if necessary.
	Stomach tube to wash out the stomach. Dialysed iron 2 ozs., repeated often. Sexquioxide of Iron.* M. Rouyer gives his experience as follows :—
	<p>Hydrated sexquioxide of iron recently prepared (gelatinous and brown) is an antidote for <i>Arsenious Acid</i>, but <i>not</i> for the <i>Arsenite of Potash</i>, nor for the <i>Arsenite of Soda</i>. (b.) At a longer interval than an hour it is useless to attempt recovery from poisoning by Arsenic. (c.) For Arsenite of Potash, and Arsenite of Soda he proposes Perchloride of Iron in conjunction with Magnesia. (d.) The mode of administration is the officinal solution of Perchloride of iron, and a half an hour after, magnesia in the proportion of a drachm to 3½ fl. ozs. of perchloride. (e.) This perchloride and magnesia is also an antidote for arsenious acid. Therefore, it is preferable to employ it always in cases of poisoning by arsenic or its compounds. (f.) An hour after the administration of antidote, it will always be well to employ a <i>purgative, in order to expel the ferrated arsenite</i> which is formed, and as this arsenite is soluble in acids, to <i>avoid acid drinks and lemonades</i>. (For Arsenic Acid, use a mixture of solution of green sulphate of iron with magnesia and animal charcoal.)</p>
	Sal Volatile, repeated. Artificial respiration ; cold affusion ; demulcents ; albumen ; oil or milk and lime-water. Morphia after acute symptoms.

* Keep a solution of Persulphate or Perchloride ; and when oxide is required, add calcined magnesia till a thick paste results, and at once administer the mixture thus produced. *Dose of Peroxide* 2 drs. to 4 drs. repeated until effective.


POISONS.	ANTIDOTES.
	Morphine hypod. 1018. Enemata peptonized with Zymine. <i>Vide</i> pg. 1232 (2).
Atropia.	Same as Belladonna.
Aurum.	Ferri Sulphate ; Mucilage.
Barium salts.	Emetics. Sulphate of Sodium ; also of Magnesium, Potassium and Calcium. Fixed oils. Stimulants in collapse.
Belladonna. Atropine.	Emetics : Mustard, or Zinc Sulphate 20 grs. in water, or stomach tube.
	<p>R Fol. Jaborandi drs. $2\frac{1}{2}$. Ft. infus. ad colat drs. 50. Take half at once, then every $\frac{1}{2}$ hour a tablespoonful with a tablespoonful of wine. Or, Hypod. injection of $\frac{3}{4}$ gr. of Pilocarpine in 30 mins. of water. Morphia Hypod.</p>
	<p> A child, aged 4 years, who had swallowed belladonna liniment, was seen in a state of complete insensibility, with dilatation of pupil, foaming at mouth and tetanic spasms and spasmodic breathing. Into right arm was injected $\frac{1}{4}$ gr. of Morphia and into left $\frac{1}{10}$ gr. of Pilocarpine. In 10 minutes foaming at mouth ceased and shortly afterwards tetanic spasms ; pupils also began to contract. Next day child was quite well. No sweating ensued from injections owing to belladonna.</p>
	<p> A medical student took by mistake 6 grs. of Atropine. In a few moments he became unconscious and fell. He was seen by a brother medical student, who instantly ran off and called Surgeon-Major Edward Lawrie. An emetic was speedily given, and the stomach pump used to wash out the contents of the stomach. The patient, however, seemed to be rapidly sinking from the effects of the drug. The pupils were dilated to their fullest extent, there were foaming at</p>


POISONS.	ANTIDOTES.
<p>Belladonna & Aconite.</p> <p>Bismuth.</p> <p>Borax.</p> <p>Bromal-Hy- drate.</p> <p>Bromides.</p>	<p>the mouth, stertorous respiration, and a rapid inter- mitting pulse. The condition seemed hastening to- wards the end, when Dr. Lawrie thought he would resort to the antagonistic effects of morphine, and injected one grain of this drug subcutaneously, with no apparent effect. He then injected another grain, but with no decided result. The patient, though still alive, seemed hovering in the balance between life and death. From eight o'clock in the morning till three in the afternoon artificial respiration was resorted to with varying intervals of rest. Dr. Lawrie now deter- mined to try the hypodermic injection of a third of a grain of morphine, and this seemed to be the determi- ning antidote, for in an hour the pulse improved, the breathing gradually resumed its normal standard, and consciousness returned.</p> <p> In a case of Atropine poisoning resulting from $\frac{1}{2}$ gr. of Atropine being injected by error, after failure of alcohol, strychnine and morphia hypodermi- cally, Nitrite of Amyl by inhalations completely cured the case. As much as dr. $\frac{1}{2}$ of Amyl Nitrite was poured on a handkerchief and held at nostrils at different times.</p> <p>Caffeine Hypod. Eserine cautiously, 1019. Am- monia ; Ol. Sassafras ; astringent infusions ; coffee ; cold to the head ; electricity ; flagellation ; pepper ; stimulants. <i>Vide</i> pg. 1231-2.</p> <p>As above, with Amyl Nitrite inhalations.</p> <p>Albumen ; milk ; sugar ; mucilage.</p> <p>Atropia, Belladonna &c.</p> <p><i>Vide</i>. Bromides.</p> <p>Nervous stimulants ; brandy ; opium.</p>


POISONS.	ANTIDOTES.
	<p> Dr. Féré had accidentally noticed that the ingestion of Bismuth Salicylate and B. Naphthol, for the purpose of obtaining intestinal asepsis, caused the prompt disappearance of the symptoms of bromide poisoning, even without involving the necessity for suspending the administration of the drug ; indeed he found it possible to raise the dose to 4, and even 5 drs., in the twenty-four hours, without provoking any recrudescence of the cutaneous lesions. Having remarked that the use of Borax in the treatment of epilepsy also caused cutaneous eruptions, he tried the same combination of remedies, and obtained equally satisfactory results. He insists on the curious fact that the toxic effects of these two drugs are singularly inhibited by intestinal asepsis, and he suggests that this method may possibly be found applicable to other medicinal substances.</p>
Bromine.	Magn. Usta in Aqua drs. 50. Take $\frac{1}{3}$ at once, then a tablespoonful every $\frac{1}{4}$ hour.
Bromoform.	Ether hypodermically, and Camphor in powder internally.
Brucia.	Treat like Strychnia.
Caffeine.	Morphia, Alcohol, Cocaine, according to symptoms. Nitroglycerine 1018.
Calabar Bean.	<i>Vide</i> Picrotoxin.
Calcium Chloride, Calx Chlorinata and Caustic Lime.	<p>Emetics : Then : R Magn. Sulph. drs. 5, Aquæ Dest. ozs. $3\frac{1}{2}$, Syr. Simpl. oz. 1. Take at once. Then. R Ol. Amygd. Dulc. drs. 5, Pw. Gum Acaciæ drs. $2\frac{1}{2}$, Aquæ Dest. ozs. $3\frac{1}{2}$, Syr. Simpl. ozs. $3\frac{1}{2}$. Two tablespoonfuls every $\frac{1}{4}$ hour. Albumen ; milk ; flour and water ; no acids.</p>
Camphor.	Emetics or stomach pump. Stimulants ; wine ; opium. Warmth to the extremities.

POISONS.	ANTIDOTES.
Cannabis Indica.	 In a case of camphor poisoning, strong infusion of coffee and Tr. Belladonna in 3 drop doses every $\frac{1}{2}$ hour made the patient rally in 2 hours.
	In case of overdose , hot brandy and water, vegetable acids, such as lemon juice, vinegar and the like and let patient sleep. A blister to the nape of the neck is recommended to control its violent action. In case of poisoning treat like Morphia. <i>Vide</i> pg. 1231-2.
Cantharides	Emetics : Apomorphia hypod. or Cupri Sulph. Then : R Camphor grs. 45, Muc. Acaciæ q. s., Mist. Gummos. drs. 75, Tr. Opii mins. 10. Tablespoonful every 5 or 10 minutes. Or Castor Oil and Opium. Also enemata of opium with demulcents. Copious draughts of milk ; mucilaginous fluids ; broths ; avoid fats and oils.
Carbonic Oxide and Carbonic Acid Gas.	R Aquæ Ammon. drs. 10. For 'smelling. Cold ablutions. R Ext. Ergotæ grs. $7\frac{1}{2}$, Aquæ Dest. drs. $12\frac{1}{2}$. A dessertspoonful every $\frac{1}{4}$ hour.
	Inhalation of Oxygen 531. Artificial respiration. Atropine 1015.
Castor Beans or Seeds.	Give a mixture of Morphia, Bismuth and Capsicum ; also Ammon. Carb. alternately.
Chloral Hydrate.	<i>Emetics</i> : Zinc Sulph. or stomach pump. <i>Sustain the action of the heart</i> by such remedies as Ammonia, Brandy, Caffeine, Coffee and frequent Amyl Nitrite inhalations. Keep up the breathing by artificial respiration. Keep the patient warm : hot bath or pack. Rouse the patient. Use cutaneous stimulants as electricity, frictions. Oxygen Inhalation 531.
	Antidotes: Strychnine hypod., $\frac{1}{60}$ gr. every 3 hours at first (<i>Vide</i> pg. 1019) ; Atropine or Bellad. 166 ; Pierotoxine 166. <i>Vide</i> pg. 1231-2.

POISONS.	ANTIDOTES.
Chlorine Vapours.	R Aquæ Laurocerasi drs. 2½, Ætheris, Alcohol 90 p. c., â â. drs. 10. Sig.—For smelling and inhaling. Inhale steamed air containing a little Ammonia. Fresh air. R Sp. Ether. Nitr. drs. 5, Syr. Althææ, Aquæ Dest., â â. drs. 10. M. A tablespoonful every five or ten minutes.
Chlorine Water. Chloroform Inhalation.	Same as Calcium Chloride. Plenty of air ; hot cloths above the heart ; cold affusions ; coffee ; flagellation ; galvanism to larynx and pit of the stomach ; Sp. Ammon. Aro. hypod. ; artificial respiration ; tongue should be held well forward by forceps. Amyl Nitrite (<i>Vide</i> pg. 45 and 1015). Atropine hypod. 1015. Incline body so that head is lower than the body. Nélaton's method of <i>inverting</i> the patient, having tongue drawn forwards, and then compressing and relaxing the chest ; keep the patient in this position till breath and pulse are good. Oxygen Inhalation pg. 531.
Chloroform Internally. Cocaine.	<i>Vide</i> pg. 169. <i>Vide</i> Part III. Amyl Nitrite inhalations. Morphia Hypod. Alcohol. Ammonia to smell and liq. ammoniæ internally (2 cases were successfully treated). In grave cases hypod. injection of Ether and artificial respirations. Coffee , <i>Vide</i> pg. 208. Caffeine 1016. <i>Vide</i> also pg. 196.
Colchicum. Conium (Hemlock).	Same as Aconite. Emetics, followed by stimulants external and internal ; artificial respiration long continued. The following is also useful : R Strychn. Nitr. gr. 1/75, Tr. Opii mins. 30, Aquæ Dest. drs. 25. M. Two dessertspoonfuls every ¼ hour, until one-third is taken ; then every ½ hour, until the second one-third is consumed ; then every hour. Atropine hypod. 1015. <i>Vide</i> pg. 1231-2.


POISONS.	ANTIDOTES.
Copper Salts	<p>R Ferri Pulv. drs. $3\frac{1}{2}$, Flor. Sulph. lot. drs. 2, Syr. Simpl. drs. 15. M. Shake well, and give a dessertspoonful every 5 minutes, alternating with</p> <p>Magn. Ust in Aq. drs. 50 ; mix with white of 4 eggs, and add Aquæ Dest. drs. 50 and Syr. Simpl. drs. 20. Sig. Half a teacupful every 5 minutes.</p> <p>Laudanum internally. Ferrocyanide of Potassium. <i>Linseed meal poultices over the abdomen.</i> No vinegar. Barley water ; gluten ; milk ; sugar. <i>Vide</i> pg. 1232 and 1233.</p>
Swallowed Copper Money.	<p><i>To Children :</i> R Hydrom. Infant. drs. 5. Give at once. R Aq. Laxat. Vienn. drs. $12\frac{1}{2}$, Sodii Sulph. drs. $2\frac{1}{2}$.</p>
Creasote.	<p>R Acaciæ Pv. drs. $2\frac{1}{2}$, Ol. Amygd. Dulc. drs. 5, Aquæ Dest. drs. 70. M. ft. emulsio. Take $\frac{1}{4}$ at once, then $\frac{1}{2}$ teacupful every 10 minutes. Albumen ; gluten ; milk ; oil ; flour.</p>
Croton Oil.	<p>An emetic of <i>Sulphate of Zinc</i> grs. 20 at once administered, followed by <i>mucilaginous fluids</i> and <i>Opium</i> to check the diarrhœa ; <i>Camphor</i> ; <i>stimulants</i>.</p>
Curare.	<p>Strychn. Nitr. hypod. gr. $\frac{1}{15}$.</p>
Datura. (Daturine).	<p>Same as Belladonna.  A child aged 4 was in a comatose condition from having eaten 2 handfuls of the ripe berries of the thorn apple (<i>Datura Stramonium</i>). Hypod. injection of $\frac{1}{4}$ gr. of Pilocarpine was given, and as no effect was produced, the dose was increased to $\frac{1}{7}$. As no improvement was evident, it was repeated. Altogether in 5 hours six-sevenths of a grain were given and by that time the child was convalescent. No physiological effects of pilocarpine were produced until the last dose was given, which was followed by profuse secretion of saliva and perspiration. Infusion of licorice is suggested to be effective in poisonous or over doses of datura.</p>


POISONS.	ANTIDOTES.
Digitalis. (Digitalin).	Emetic : Apomorphia hypod. Recumbent posture is most important. Tannin 20 grs. or more in hot infusion of coffee given frequently as in morphia poisoning. Aconitin hypod. External and internal stimulants as Sal Volatile &c. <i>Vide</i> pg. 1232.
Duboisia. Easton's Syrup.	Same as Atropia. <i>Vide</i> also pg. 239. A man aged 29, took 10 drs. of Easton's syrup equivalent to a little over $\frac{1}{4}$ gr. of Strychnine. He was suffering acutely from Strychnine-poisoning, but $\frac{1}{2}$ oz. of Pot. Bromide brought the man round. (W. B. Caley, L. S. A.)
Elaterium (Wild Cucu- mber).	Emollient and demulcent drinks and enemata, followed by small but repeated doses of Opium, and use of warm bath.
Ergot.	Same as Sausage Poison.
Eserine.	<i>Vide</i> Physostigma.
Ferrum.	Carbonates of Ammonium and Sodium ; Magnesia ; mucilaginous drinks.
Ferri Arse- nias.	Emetic of Cupri Sulph. grs. 10. Then for further, <i>Vide</i> Arsenic.
Fungi or Mushrooms (Poisonous).	Emetic of 15 grs. or more of <i>Zinc Sulphate</i> in water, followed by an hot infusion of coffee with Tannic Acid as described in case of morphia (q. v.). Atropine hypod., 1015. <i>Stimulants</i> unless inflammatory symptoms present themselves) and <i>Castor Oil</i> .
	 Two distinct toxic substances probably exist in poisonous fungi, viz., Muscarine, the action and antagonism of which to <i>Stramonium</i> and <i>Belladonna</i> have been mentioned, and another, whose effects on the system are analogous to those of <i>Atropia</i> and <i>Daturia</i> . Schiff recommends the treatment first proposed by Dr. Lauder Brunton, and based upon the

POISONS.	ANTIDOTES.
Gamboge.	experiments of Schmiedeberg, viz., the use of <i>Atropia</i> , <i>Datura</i> , or <i>Stramonium</i> in substance, or as an alcoholic Extract. <i>Vide</i> Duboisine pg. 1017.
Gelsemium.	Potassic or Sodid Carbonate, or Magnesia, in milk ; mucilaginous drinks ; Opium. <i>Vide</i> pg. 301.
	 A physician of middle age took between 1 and 2 drs. of Tr. Gelsemii with some whiskey, mistaking it for Tr. Cinchona. Disturbance of vision with all other characteristic symptoms of an overdose of Gelsemium came on rapidly (q. v. pg. 296). An effort was made to produce vomiting but it failed. On physiological principles the hypodermic use of Morphia was resorted to at intervals of 3 to 4 minutes, from $\frac{1}{2}$ to $\frac{3}{4}$ gr. being used each time, and a similar dose, given internally ; five doses in all being given. Improvement in all the symptoms followed the use of the morphia, and later, vomiting occurred, the ejected matter showing no traces of the poison. Two doses more of the morphia were subsequently used, and at the end of between $3\frac{1}{2}$ and 4 hours from the commencement of the treatment, the patient was able to give an account of the mode of his poisoning. The stomach was empty when the poison was taken, and about 2 hours passed before the morphia was used.
Glass, coarse or in powder.	Much bread, in crumbs, to envelope it, following with emetics.
Gratiola Officinalis.	Treat like Aconite.
Helleborus.	Treat as an irritant poison. <i>Vide</i> Aconite.
Hoang Nan	<i>Vide</i> pg. 327.
Hydrarg. Cyanide.	<i>Vide</i> pg. 1233 (3.).
Hydrarg. Perchloride. (Mercury).	If vomiting does not already exist it must be excited by the use of <i>emetics</i> . Then white of egg


POISONS.	ANTIDOTES.
	<p>mixed with water should be administered freely, <i>but not in excess</i>, lest it should redissolve compound ; 4 grs. require white of one egg ; <i>Yolk</i> is equally effective. Then stomach washed out if preferred. Vegetable astringents ; demulcents ; <i>wheaten flour with milk</i> ; gluten. <i>Morphine</i> if needed. The <i>hydrated protosulphuret of iron</i>, if given in 20 minutes, is reported to be a proper chemical antidote. <i>After-treatment : Pot. Iodide.</i> Vide Copper Salts and pg. 1233.</p>
Hyoscyamus.	<p>Stomach pump ; emetics ; external and internal stimulants ; hot coffee enema ; lemon juice. Ol: <i>Sassafras</i> 528. Vide pg. 1231-2.</p>
Hyoscine.	<p>Eserine 1017 ; Pilocarpine 1019. Vide pg. 360 and 1231-2.</p>
Iodine.	<p>Emetics. Mix by triturating with a little water 75 grs. of Starch, then pour on 25 drs. of <i>Aquæ Fervidæ</i> and add 25 drs. <i>Magn. Ust.</i> in <i>Aq.</i> Sig.—A tablespoonful every 5 minutes. Demulcent drinks ; arrowroot, white of egg &c., in water. Inhalation of <i>Amyl Nitrite</i>. <i>Morphia</i> hypod. to relieve pain.</p>
Iodoform.	<p>Vide pg. 393.</p>
Jaborandi.	<p>Vide Pilocarpine pg. 410.</p>
Jatropha Curcas.	<p>Sal Volatile ; Coffee ; Opium ; ice and iced soda water &c.</p>
Lactucarium.	<p>Treat like <i>Morphia</i>.</p>
Lead Salts.	<p><i>Sulphate of Soda</i> or <i>Epsom Salts</i>, succeeded by emetics, and afterwards by opium and liberal libations of milk, or white of egg mixed with water. Poultices to abdomen. Alum. Pot. <i>Iodide</i> as after-eliminative. Vide Barium Salts.</p> <p>☞ M. Lavrand states that he has found iodide of iron in the form of pills, as prestribed in the French</p>

POISONS.	ANTIDOTES.
	Codex, very efficacious in treating the lead poisoning which occurs amongst workmen employed in white-lead manufactories. Sometimes he gives the iodide of iron by itself, at others he combines with it phosphide of zinc. Under this treatment workmen who had already commenced to show signs of lead poisoning were enabled to continue their occupation ; their general health also improved, and the amount of hæmoglobin increased.
Lobelia.	<i>The most active internal and external stimulants</i> should be employed. Tannic or Gallic Acid or strong tea frequently repeated, warmth to the surface and recumbent position.
Mezereum.	Albuminous and mucilaginous drinks ; milk ; oils and fats ; albuminous enemata ; cool poultices to abdomen, &c. ; opium.
Morphia.	<i>Vide</i> Opium.
Muscarine.	<i>Vide</i> Fungi or Mushrooms.
Myristica (Nutmegs).	<i>Vide</i> pg. 501.
Nicotina (Tobacco).	In case of nausea in consequence of smoking :—R Aceti Crudi (Vinegar) drs. 12½, Aquæ Dest. drs. 50, Syr. Simpl. drs. 12½. M. ½ at once, and then a tablespoonful every 5 minutes. In case of poisoning : Emetics ; then : R Acidi Tannici dr. 1, Syr. Simpl. drs. 12½, Aquæ Dest. drs. 50. M. A tablespoonful every 5 minutes. Also external and internal stimulants ; keep recumbent position. Ol. Sassafras , pg. 528. Strychnia. <i>Vide</i> Morphia.
Nitroglycerine.	<i>Vide</i> pg. 511. Also 1015 and 1017.
Nux Vomica	Enema Tabaci should be administered. Infusion of Tobacco, ½ oz. to 20 ozs. of boiling water, may be

POISONS.	ANTIDOTES.
<p>Ol. Amygd. Amaræ. Opium. Morphia.</p>	<p>given in divided doses till the spasms abate, and then discontinue its use. Nicotina if at hand, in the dose of one drop, in some warm sherry and water. <i>Vide</i> Strychnia.</p> <p><i>Vide</i> Hydrocyanic Acid. Also pg. 1015.</p> <p>Emetics : Zinc Sulphate 20 grs. in water ; or Apomorphia hypod ; stomach pump.</p> <p>R Coffee Tostæ drs. 12½, F. Infusum ad Colatur drs. 50, Acidi Tannici dr. 1, Syr. Simpl. drs. 12½. M. Teaspoonful every 5 minutes.</p> <p>Atropine hypod 1015. Duboisine 239. Amyl Nitrite inhalations 45.</p> <p>Nitroglycerine :  Dr. Speer reports the following case : A youth, aged 17, took with suicidal intent 6 grains of sulphate of morphine at 8 P.M. He was not noticed till 10 P.M., when it was found he could not be roused. Medical aid was at once summoned ; as it was presumed that all the poison had been absorbed, the stomach pump was not used. One-thirtieth of a grain of atropine was injected every two hours until one-sixth had been thus used ; strong coffee was injected <i>per rectum</i> at short intervals, and the battery vigorously applied. At 8 A.M. the following morning Dr. Speer saw the patient in conjunction with Dr. Stimson, and found him almost completely cyanosed, pulse 160, respirations, 40, temperature 101°, loud mucous <i>râles</i> in trachea, pupils widely dilated, respiration abdominal. They decided to try the effect of nitroglycerine ; one-fiftieth of a grain was injected hypodermically, and in an hour a similar quantity. The patient was then turned on his side, when very soon there was a long full thoracic inspiration ; in about half an hour he vomited freely, and became con-</p>

POISONS.	ANTIDOTES.
Opium and Belladonna.	<p>scious. He was then given another injection of half the quantity, and went to sleep, waking up in two hours all right, with the exception of headache.</p> <p>Picrotoxine 200. Caffeine hypod. 1016. Vegetable astringents. Belladonna (10 mins. of tr. every $\frac{1}{2}$ hour.) Hyoscyamus. Animal charcoal.</p> <p><i>Cold affusions</i> ; flagellation ; <i>compelled exertion</i> ; external stimulants ; epispastics ; tr. iodine co. ; <i>ammonia to nostrils</i> ; <i>artificial respiration</i> ; faradic current to phrenic nerves ; oxygen gas 531. Vide pg. 1231-2. and 1232 (2).</p> <p>Apomorphia hypod. Caffeine hypod. Amyl Nitrite inhalations.</p>
Opium and Chloral.	<p>Apomorphia hypod. Sal. Volatile, a teaspoonful in water. Atropine hypod.</p>
Paris Quadrifolia.	<p>Treat like Morphia.</p>
Pellitory.	<p> A child, $3\frac{1}{2}$ years old, swallowed about 50 minims of tinct. pyrethri in the evening. Next morning it had diarrhœa ; was stupefied ; had muscular twitchings ; swollen, drab-colored tongue ; no vomiting. By noon the twitchings increased to convulsions, lasting an hour. After this the child gradually recovered, and was well by the fifth day. The influence of the poison in quickening the pulse rate persisted for a long time. Treatment consisted in the use of enemata of starch and opium, wine and coffee, and ice to the forehead and spine. The latter use of ice was continued for three hours, and was of great service. (H. Langley Browne).</p>
Petroleum, Or Volatile Oils.	<p>Evacuate the stomach. Mist. Oleos ozs. 30 ; drink continually. Stimulants ; cold affusions ; frictions to extremities ; coffee ; artificial respiration. Amyl Nitrite 45 (9.).</p>

POISONS.	ANTIDOTES.
Phosphorus Rate Paste.	<p>Emetic of 20 grs. of Zinc Sulph. in water ; or 3 grs. of Cupri Sulph. every 5 minutes.</p> <p>French Oil of Turpentine, dr. $\frac{1}{2}$ by mouth every half hour, or as follows: R Ol. Terebinth. Vetusti (the older the better) drs. $7\frac{1}{2}$, beat with the white of 2 eggs, and add Aquæ Menth. Pip. drs. 50. and Syr. Simpl. drs. $12\frac{1}{2}$. Ft. emulsio. Sig.—Shake well, and give one tablespoonful every $\frac{1}{2}$ hour, until one-fourth of the mixture has been given ; then one tablespoonful every hour. <i>Mucilaginous drinks</i>; carbo animalis; liq. calcis. Sanitas Oil 645. Afterwards give <i>Morphia</i>. Avoid all fats and oils.</p> <p>In doubtful cases of poisoning with Phosphorus give : R Magn. Usta in Aq. drs. 5, Aquæ Chlori drs. 5. M.D.</p>
Phosphorus- Burns.	<p>R Argenti Nitr. fus. grs. 30, Aquæ Dest. drs. 5. Solve. Sig.—Apply with a camel-hair brush, and use as a gargle.</p>
Physos- tigma. <i>(Calabar Bean.)</i> Eserine.	<p>Apomorphia hypod. as an emetic. Atropine hypod. 1015. Duboisine 239. Chloral Hydrate grs. 5 in water every $\frac{1}{4}$ hour. Strychnine hypod. 1019. Scopolaine 653.</p>
Picrotoxine. Cocculus Ind.	<p>Emetics. Allyl Tribromide. Chloral Hydrate. Urethane, Dose : 2 to 3 drs.</p>
Pilocarpine. Jaborandi.	<p>Emetics. Tannin internally. Atropine hypod. 1015. Duboisine 1017. Homatropine Hydrobromate 329. <i>Vide</i> also pg. 410.</p>
Potash.	<p><i>Vide.</i> Alkalies.</p>
Pot. Bichro- mas.	<p><i>Vide.</i> Acid Chromic.</p>
Pot. Bro- mide.	<p><i>Vide.</i> Bromides.</p>
Pot. Cyanide	<p><i>Vide.</i> Acid Hydrocyanic.</p>

POISONS.	ANTIDOTES.
Pot. Nitras.	Emetics. Opium ; emollient enemata ; aromatics ; milk and mucilaginous drinks.
Pulsatilla.	Treat like Aconitia.
Quinine.	Emetics and Cathartics ; Opium ; Coffee ; Brandy or Wine ; Diffusible Stimulants. Diuretics and Sudorifics as after-eliminatives. <i>Vide</i> Quinine Intoxication 599.
Resorcine.	<i>Vide</i> pg. 612. Also Urethane in doses of 2 to 3 drs. for counteracting the convulsions &c. The case of poisoning by Resorcine presents a close resemblance to that of Carbolic acid poisoning and the treatment is nearly the same.
Rhus Toxicodendron. (<i>Poison Ivy.</i>)	For severe external irritation and inflammation produced by handling the poison ivy the following are serviceable :—1. Application of diluted Carbolic Acid. 2. Painting with Ext. Gelsemii Fl. 3. Grindelia Robusta 311 (6).
Sabina.	First emetics ; then Castor Oil, linseed poultices to abdomen, opiates, or morphia hypod. (pg. 1018) and demulcents.
Santonin.	 Professor Binz mentions a case of poisoning by santonin, in which a child of two years had taken one grain and a half of the drug. There were violent convulsions, beginning in the face and extending to the extremities, and great interference with the breathing. She recovered under the use of warm baths, vinegar enemata, plenty of fluids to drink, and artificial respiration. Prof. B. then instituted some experiments on animals to elucidate the treatment, and found that chloral, in doses sufficient to produce sleep, prevented the convulsions, and that ether-inhalations exercised a controlling influence over them. He thinks the same treatment may be employed in the human subject, cou-

POISONS.	ANTIDOTES.
Sausage or Spoiled Meat.	<p>pled with artificial respiration, and, for purposes of elimination, laxatives and diluents in abundance.</p> <p>First an emetic. Then give : R Æther Pur. mins. 30, Tr. Opii mins. 10, Syr. drs. 5, Aquæ Dest. drs. 4. M. Tablespoonful every $\frac{1}{2}$ hour.</p>
Scopolia Carniolica & Japonica. Scopoleine.	Treat like Belladonna or Atropine.
Shell Fish.	Capsicum ; Chloroform ; Pot. Chlorate freely ; Liq. Ammon. Acet. ; Opium.
Soda.	<i>Vide.</i> Alkalies.
Solanine.	<i>Vide</i> pg. 769-70.
Stannum. (Tin Salts).	<p>Treat like Mineral Acids. The following is the definite treatment :—Emetic : R Ipecac Pv. grs. 30, Syrupi drs. 5, Aquæ Dest. drs. 25. M. Give in 2 doses within $\frac{1}{4}$ hour. Then : R Magn. Usta in Aq. drs. 50. Give $\frac{1}{3}$ at once, then a tablespoonful every 5 minutes, besides plenty of milk. Carbonate of Ammonia or Soda. Albumen.</p>
Strammonium. Strychnia.	<p>Treat like Belladonna. <i>Vide</i> Datura.</p> <p>Apomorphia hypod. Animal charcoal or Tannic Acid 25 or 30 grs. in hot water (or R Acid Tannic grs. 45, Syr. Althææ drs. 15, Aquæ drs. 40. M. Tablespoonful every 5 minutes) followed by an emetic, or the stomach-pump. Then Pot. Bromide $\frac{1}{2}$ oz. and Chloral 30 grs. in water ; or Chloral Hypod. 1016. Bromides 2 drs., with or without 10 grs. Chloral, may be given every 15 or 20 minutes if necessary. Amyl Nitrite inhalations ; the Amyl being poured freely on a handkerchief and held close to the nose. The patient may be kept freely under Chloroform or Ether. hypod. 1017. Paraldehyde 546. Picrotoxine</p>

POISONS.	ANTIDOTES.
Sulphu- retted Hydrogen.	201. Curara 1016. Urethane drs. 2 to 3 inter- nally. Eserine 1017. Ether 1017. Camph. Mono- bromide 136. Lobelia . Tobacco . Opium . Olive oil or lard : <i>Hot bath. Artificial respiration to be kept up.</i> <i>Forced</i> insufflation of air. <i>Vide</i> pg. 1232 (2).
Tin.	R Sp. Etheris Co. oz. 1. Give 10 drops every 5 minutes in a dessertspoonful of water. R Sp. Æth. Nitrosi ozs. $1\frac{1}{2}$. Pour on a cloth, and apply to nostrils. R Calc. Hypochlor. drs. 10. For smelling. Fresh air ; wash with vinegar.
Tobacco.	<i>Vide.</i> Stannum.
Vegetable.	<i>Vide.</i> Nicotin.
Veratrum Viride.	Generally albuminous or mucilaginous drinks ; oils, &c., stimulants ; opium ; soothing clysters ; ice ; cool poultices to abdomen.
Zinc Salts. (Burnett's Solution).	Stimulants ; Digitalis ; Opium. Carbonate of Soda or Carbonate of Potash in large quantities dissolved in warm water ; Tannic Acid (R Acid Tannic dr. 1, Aquæ Dest. drs. 35, Syr. and Mucilage â â. drs. $7\frac{1}{2}$. M. Tablespoonful every 5 minutes) or strong tea ; milk and eggs freely ; albu- men ; warm demulcent or mucilaginous drinks ; lauda- num ; morphine 1018 ; linseed meal poultices to abdo- men. If much pain in the abdomen, an enema of gruel. or starch and water may be given. <i>Vide</i> pg. 1232 (2),

TREMORS OR TREMBLINGS.

Tremors of Chronic Alcoholism.—Hyosc. Hydrom. 361.
Vide pg. 811-2.

Tremors of Chorea.—*Vide* pg. 865-6.

Mercurial Tremors.—Hyosc. Hydrybrom. 361. Pot. Iodide.

Tremors of Multiple Sclerosis.—Hyosc. Hydrobrom. 361 ; Nitrate of Silver ; Strychnine &c.

Tremors of Paralysis Agitans. *Vide* pg. 1139.

TROPICAL LIFE.

1. In the treatment of these cases one great thing is *time*—time during which the system is accommodating itself to a new environment, and gradually shaking off, as it were, the effects of prejudicial climatic conditions to which it had been previously habituated. The medical treatment mainly consists in *finding out what is wrong*, and for that purpose it is necessary to tap at the door of every organ. The more the patient is in the open air the better, and *a sea voyage, a trip to the north of Europe or Scotland*, may do good ; but *residence at the seaside, particularly in a relaxing place, generally does harm*, notably in cases where there is an *inactive liver*. The patient feels mentally jaded, and to secure sleep he requires to go to bed physically, and not mentally, tired. Sometimes, when the bowels are irregular, and there are slight dyspeptic symptoms attended with flatulence, an ordinary dinner pill or frequent small doses of *mercury* (the tenth of a grain of calomel) will do more to procure sleep than all the opiates in the world. The indiscriminate use of narcotics or sedatives, or that of tonics, is often very injurious. If the patient is anæmic or has a *malarious* history, but no organic disease, and a clean tongue, the use of *quinine, arsenic, and iron* is indicated ; and *Blaud's pills* (if they do not irritate) are an excellent preparation, or a mixture of the *perchloride of iron and arsenic*, or *Easton's syrup* may be used. If the patient is physically restless at night—constantly changing his position—a combination of the *bromides of sodium and ammonia with hyoscyamus* proves very useful ; but when there is depression of spirits bromides have generally an injurious effect. The diet should be varied, simple, and wholesome. *Beer and spirits* are better avoided. *Burgundy* and the *Austrian wines* are preferable, and generally agree. *Fresh fruits of almost any kind* are useful, if not taken at night. The condition in which some of these patients find themselves is more distressing than is commonly imagined, and out of all proportion to its danger or gravity ; the sufferers are often thin, jaded, and anæmic-looking, introspective and depressed, but they almost

invariably recover in time. Every temperament is liable to go down before these climatic conditions, but those of a nervous or nervo-bilious temperament suffer most ; and it is needless to remark that pleasant and cheerful society helps them over the time necessary for their recovery. (Surgeon-general Marston).

2. F. 11, pg. 872 ; F. 5, pg. 950 ; F. 2, 3, pg. 951 ; F. 6, pg. 952.

TUBERCULOSIS.

Acid Phosphoric 559, *Calcium Chloride* 130, *C. Hippuras* 131, *C. Phosphas*, *Ferri Iodide*, Helenin 324, Hydr. Biniodide, Hydr. Perchl., Ichthyol 371, *Iodoform* 388 (4.), *Iodoform inunction* 1053, Koch's Remedy 1155-6, Menispermum, *Morrhaine*, Ol. Eulachon, Ol. *Morrhue*, *Phytolacca* 565, Pot. Chloras, *Protagon* 577, *Punica Gran.* 584 (4.), *Pyrodyne* 587, *Stillingia* 686 (4.), *Yerba Santa* 744. *Vide* pg. 1043.

ULCERS OR SORES.

Healthy or Healing Ulcers.

Acid Boracic, *A. Phosphoric* 559, *A. Salicylic* 18-19, Antiseptin, Aplotaxis Aur., *Argenti Nitr.*, *Aristol*, *B. Naphthol* 99, *Bismuth Oxyiodide*, Boroglyceride, Cadmium Sulph. 756, *Camphor-Phenique* (mixed with 3 parts of Olive or Linseed Oil), Collodion, Cupri Sulph., Empl. Resinæ, *Hydrastis Can.* 344, *Hydrastine*, *Hydrocotyle As.* 353, *Hydrogen Peroxide* 356, *Iodoform* 389, *Jurubeba* 430, *Kieselgühr* 439, *Morinda Citr.*, *Naphthalin*, *Plumbi Carb.*, *Quercus Pulv.*, *Salol*, *Sanitas Vaseline* 645, *Terminalia Arjuna*, *Zinc Oxide*.

Weak or Atonic Ulcers.

Antipyrin is an excellent stimulant for atonic ulcers. In a case of hæmorrhage from an ulcer of the leg, Antipyrin, spread on a piece of cotton wool, was applied by Dr. Bosse. After a few days, on removal of the cotton wool, it was seen that the place was covered with splendid healthy looking granulations. The author now spread Antipyrin over the whole ulcerated surface, which possessed the size of the palm of the hand. After 10 days this large surface was covered with solid granulations, and after 22 days the ulcer had completely healed by the aid of an ointment containing 2 per cent. of **Nitrate of Silver**.

A similarly successful treatment was carried out in 29 other cases. The application of Antipyrin, which was repeated every day, caused considerable pricking and burning pains, which lasted for 5 to 15 minutes. This pain disappeared as soon as the drug had become liquified. It was considerably lessened by previous application of **Cocaine**. Signs of inflammatory reaction were never observed. In all cases where inflammatory signs existed already, and the ulcer was very painful, the extremity œdematous and the ulcers covered with sloughs and foetid discharge, it was found better to advise absolute rest and to begin the treatment by disinfectant and soothing applications. When all signs of inflammation had disappeared, Antipyrin was dispersed over the ulcers. When, after using Antipyrin, the granulations have become solid and abundant, treatment with various ointments, especially **Argenti Nitrate** ointment, is recommended.

2. These sores require local stimulants, such as the Nitrate of Silver in stick, and dry lint, Sulphate of Zinc or Copper lotion, in the proportion of 2 grs. to the ounce, or Carbolic Acid lotion of the same strength. Dusting the surface with powdered Alum or Tannin is sometimes of use, the limb being carefully elevated or bandaged, and the general health attended to. (T. Bryant, F.R.C.S.)

Indolent Ulcers.

1. They are much benefitted by an occasional application of **Condy's Fluid** of full strength.

2. Powdered **Rhubarb** applied thickly twice a day is an effectual remedy for the superficial indolent irritable ulcerations which occur about in-growing toenails, stumps, over varicose veins and the like.

3. **Dry antiseptic powder.**—R *Zinci Oxidi*, *Magn. Carb.*, *Acidi Boracici*, *A. Carbolic* q. s. added until the powder retains its character as a powder. This dusted over the surface of a wound, an old indolent ulcer or a scald, at once reduces the discharge from the surface and renders it of a healthy nature. No matter how extensive the surface may be, it does not require to be cleaned off at any time, the only dressing requisite being to continue the dusting. In extensive burns and scalds the relief from painful dressing is very marked.

4. 4. (Ind) R Cupri Sulph. grs. 15, Catechu Pulv. dr. I, Ghee (washed fifty times with water) oz. 1. M. ft. ung. For stimulating chronic indolent unhealthy ulcers.

5. *Bals. Peru.*, Collinsonia 211, *Iodol* 396, Kino Pulv., Lin. Hydrargyri, Lobelia 467, Oleat. Cupri 516, Sanguinaria 637, Tr. Benzoin Co., *Ung. Hydr. Ox. Rubr.*, Ung. Resinæ, Ung. Sabinæ.

Varicose Ulcers.

1. R Benzoin Resin drs. 2, Ceræ Flavæ drs. 4, Adipis drs. 4. M. ft. Ung.

2. Hamamelis 320; Pepsin 548 Resorcine 612; Rhubarb 1258 (2.).

Painful Ulcers.

1. R Ext. Conii dr. 1, Aquæ ad. drs. 3. M. Macerate for 2 hours, and strain. To be applied on painful sores.

2. Fresh leaves of Hyoscyamus are sometimes used as a cataplasm, or as a fomentation to allay pain in ulcers &c.

3. Antifebrin 51, Grindelia Robusta 311. Menthol 492.

Foul or Fœtid Ulcers.

1. R Plumbi Nitratis dr. 1, Aquam ad pint 1. M. A good lotion for foul ulcers, cancers, &c.

2. *Acid Carbolic* (15—30 grs. to 1 oz. water), *A Salicyl.* (1 to 16 of Vaseline), *A Sulphurous* (diluted with 1 or 2 parts of water), *Camphor Phenique*, Carbo Animalis, C. Ligni, Cataplasma Fermenti, *Condy's Fluid* (a teaspoonful to a tumblerful of water), *Creolin* 230, *Eucalyptine* 265, Eupatoreum Perf. 271, *Iodol* 396, Kalanchoe Lau., Liq. Calc. Chloratæ, *Liq. Chlori*, Ol. Aluminii 515, Mel, *Sanitas Oil* 640, *Sanitas Vaseline* 645, Sod. Hyposulph., Trifolium Pratense 713.

Sloughing Sores.

Pepsine 550. *Vide* Gangrene 969.

In sluggish ulcers, especially of the blood poison kind, a solution of dr. 1 of Iodoform in oz. 1 of Ether, painted on with a camel's hair brush is useful.

Old Chronic Ulcers.

1. R Iodoform part 1, Cinchonæ Pw. parts 3. M. To be sprinkled on chronic ulcers.
2. Inveterate cases of ulcers have been cured by the use of a combination of Salicylic Acid and Camphor in Vaseline or Olive Oil.
3. F. 2, Lupus 1049.
4. Grindelia Rob. 311, Iodide of Sulphur Soap 892, Iodol 396, Oleat. Argenti 516, Ol. Cadmii 516, Ol. Nickeli 517.

Cancerous Ulcers.

1. A saturated solution of Sodium Hyposulphite, mixed with an equal quantity of water, destroys the foetor of cancerous ulcers.
2. Ferri Arsenias mixed with four times its weight of Ferri Phosphas is used as a caustic application to cancerous ulcers. From its liability to be absorbed, its use requires great caution. An ointment may be made with twelve times its weight of simple cerate. (P. Squire).
3. Iodoform 392. Resorcine 612, Zinc Salicyl. 747. *Vide* pg. 838 (6.)

Syphilitic Ulcers.

Hydrarg. Salicyl. Resorcine 612. *Vide* para 6, 7, pg. 1221.

Scrophulous and Tuberculous Ulcers.

Acid Phosphoric 559, Aristol 754, B. Naphthol-Camphor 101, Iodol, Mercury Soziodol 670, Pot. Permang. (a teaspoonful of Liq. to a tumblerful of water), Sod. Soziodol 671, Soziodol 670.

URÆMIA.

Colchicum, Elaterium, Elaterin, *Jaborandi* 401, *Nitroglycerine* 409, *Pancreatine* 533 (2), *Pilocarpine* 407, *Sodæ Benzoas* 659.

URTICARIA (NETTLERASH).

1. (Sp.) Sivain, after trying many remedies in a severe case of urticaria, found a **vinegar lotion** gave almost instant relief,

and subsequently other cases have been equally benefited. 1 of water to 2 parts of vinegar is the strength most suitable.

2. R Hydrarg. Perchl. grs. 6, Acidi Nitrici Dil. mins. 90, Aquæ Laurocerasi fl. drs. 2, Glycerini fl. oz. 1, Aquæ Dest. fl. ozs. 8. M. ft. lotio.

3. **Antipyrin** with **Syr. Sarsæ Co.**, is found most useful in chronic urticaria in children. (Richard Neale, M. D.). *Vide* pg. 60.

4. R Inf. Rhei ozs. $1\frac{1}{2}$, Sp. Ammon. Aro. drs. $1\frac{1}{2}$, Inf. Gentianæ Co., ad. ozs. 6. For adults : $\frac{1}{2}$ to 1 oz. t. i. d. For children : dr. 1 to drs. 2 in water.

5. R Sodæ Bicarb. drs. $1\frac{1}{2}$, Sp. Chloroformi drs. $1\frac{1}{2}$, Inf. Calumbæ ad. ozs. 6. M. For adults : oz. 1. t. i. d. For children : dr. 1 to drs. 2.

6. F. 6, pg. 871 ; F. 24, pg. 874 ; F. 6, pg. 984 ; F. 12, pg. 1182 ; F. 9, pg. 1185.

7. *Antifebrin* 51, *Arsenic* (I.), *Cocaine* 191, *Ichthyol* 367, *Iodine* 384, *Juniper Leaves Vapor* 1180, *Liq. Plumbi Acet.*, *Menthol* 492, *Sanitas Vaseline* 644 (10).

UTERINE DISEASES.

CONGESTION OF THE CERVIX UTERI.

1. A fair quantity of blood may be taken from the loins by *cupping*, from the cervix by scarification, or leeches may be applied to the vulva, or (by means of the speculum) to the cervix uteri. Great benefit is frequently derived from this latter mode of local blood letting. This should be followed by hip-baths and emollient vaginal injections, by which means, aided by mild laxatives, we may hope to lessen the tenderness and swelling of the cervix ; and when this is done, counter-irritation may be produced by blisters, &c. to the sacrum.

2. F. 2, pg. 915 ; F. 1, pg. 1057 ; *Gelsemium Semp.* 300 ; *Hydrastine* 350.

SUB-INVOLUTION OF THE UTERUS.

Treatment with Elaterium.—To cure this disease, as before remarked, the engorgement must be removed. The interstices and tubular glands and cells must be emptied of the serum which is constantly accumulating and overflowing, in the form of leucorrhœa, as long as the sub-involution exists. This can be done by the application of the elaterium or the squirting cucumber.

The attention of the writer was first called to the usefulness of elaterium while compiling the Concordance Repertory from the *Materia Medica* nine or ten years ago. Cowperthwaite, in his general analysis of the drug, says that it “acts powerfully upon mucous surfaces, causing an enormous flow of watery serum from the first mucous membrane that absorbs it.” We reasoned, if elaterium produces that effect it would be the very thing to remove engorgements of the uterus. But we found on further investigation in the *Materia Medica*, that elaterium is the most active and certain of known hydragogue cathartics; causing colic, nausea, vomiting, prostration, and sometimes collapse. We feared to use the drug on this account, but after reflection concluded that it could be prepared by graduation so that it would produce the flow of serum without causing any of the dangerous or unpleasant effects upon the system. We procured one grain of elaterium and mixed it in the mortar with ten grains of sugar of milk, and then mixed it with one drachm each of glycerin, lard and cocoa-butter, and consolidated by a gentle heat. There was a case of sub-involution which we had been treating for some time according to the old method of applying iodine, glycerin, hydrastis, etc., without any prospect of improvement. The patient was a great sufferer from backache; headache; dragging, heavy, bearing-down sensation in the sacrum; constipation and profuse leucorrhœa. We determined to apply the elaterium as prepared, which was done by introducing a bolus about the size of a common playing marble into the vagina and smearing it over and about the cervix. The next morning we were called to visit the patient, as she was unable, on account of some obstruction about the meatus urinarius, to pass water. The obstruction was found to be a hardened substance or exfoliation something like the membrane

adhering to the shell of a hard-boiled egg. It adhered tightly to the membrane about the meatus, clitoris and labia, and required some force to remove it. The same membrane, but not so tough, was found adhering to the vaginal walls, which, when removed gave an exact mould of the vagina, cervix, os and cul-de-sac. One would have supposed that the medicine had cooked and destroyed the mucous membrane of the parts, and it had come away leaving the vaginal walls like a raw piece of meat, but on examination the membrane was found intact, and as clean as could be. We then applied a weak solution of hydrastis, and left the patient comfortable. On visiting her the next day, we found more of the pseudo-membrane, which showed that the elaterium had not completed its work when the former attachment was removed. This additional collection was removed and more solution of hydrastis applied. The following day (the third), we found the patient feeling much better in every way than she had felt for months, and was encouraged to make another application of the elaterium, which we did, and, this time, anointed the meatus and surrounding parts with vaseline to prevent adhesion of the exudation. The application resulted the same as before, except the annoyance about the occlusion of the meatus. The vaseline prevented it. The exfoliation was removed the second day by injection of a large quantity of warm water, followed by the hydrastis. The patient continued to improve, and the treatment was continued every three or four days for a few weeks, until she was entirely well. Since then we have used the elaterium in every case with the best results.

There is something remarkably singular and unaccountable regarding the action of the elaterim in producing such a great flow of serum, and causing it to coagulate in the vagina. We believe it is the only drug which has this power. In using it we have found patients so susceptible to the action of the elaterium, that it would make them very weak and sick, and we had to greatly reduce the power of the application by using a smaller quantity of the drug in the vehicle, or a larger quantity of the vehicle. In some cases the application would have but little or no effect unless more of the drug was used. For the past year we have been using the

lincture of the elaterium, one part of the remedy to nine parts of glycerin, and after saturating a large pledget of absorbent wool with pure glycerin, then dropping about twenty minims of the elaterium and glycerin mixture on the wool, and by thoroughly manipulating the wool in the hand, distribute the remedy through the wool, and introducing it into the vagina. We find in this way the coagulated serum attaches to the wool, and is removed with it. A string should be looped around the middle of the wool, so that the patient can remove it before presenting herself for another treatment.

P. S.—Since writing the above, several months since, I thought of the plan of using **elaterin**, instead of the elaterium, and solicited the assistance of Messrs. Parke, Davis, & Co. They made a very elegant suppository for me, containing one-sixteenth of a grain of elaterin to one drachm of glycerin, and I have been using this suppository in practice since. With this application there is no exfoliation, but a gentle flow of serum is established, which with an occasional application of a suppository, is kept up until the engorgement has disappeared. (W. D. Gentry, M.D.).

EROSION, ULCERATION, &C., OF THE CERVIX UTERI.

1. As a cervical dressing in these cases, **Ext. Hydrastis Can. Fl.** will be found of service applied on the vaginal tampon, either alone or combined with **Carbolic Acid or Iodine**, adding equal parts of Glycerine. The tampon first soaked in **Glycerine** and shaped, has a little Hydrastis Extract or the compound preparation poured on the surface, to be applied at night by the patient. This she can readily do herself. By the way, patients should be taught how to properly apply tampons. In many cases where the use of the hot douche (110° to 115°) is called for, the liquid extract of hydrastis (2 to 3 drs.) may with benefit be added to the water, contained in the quart can. Dr. Mac Naughton Jones.

2. F. 1, pg. 1057; Hydrastine; Hydrogen Peroxide 356, Ichthyol 370, Iodoform 390, Resorcine 612.

CANCER OF THE UTERUS.

Bromine 117-8, Jamaica Dogwood 422, Resorcine 612, Terebinth. Chio 704. *Vide* pg. 837-8.

DISPLACEMENTS OF THE UTERUS.

Hydrastis Can. 343 ; Jamaica Dogwood 422.

TYMPANITIS OF THE UTERUS.

Jamaica Dogwood. *Vide* pg. 1079.

UTERINE SEDATIVES.

These are agents which produce a direct sedative effect on the uterus and its appendages and are indicated in irritable, painful, neuralgic, congestive and inflammatory states of the organ.

Atropine 82, *Actæa Rac.*, *Belladonna*, *Camphor Monobrom.*, *Cannabis Ind.* 137, *Caulophyllum*, *Conium*, *Gelsemium* 300, *Jamaica Dogwood*, *Liq. Opii Sedat.*, *Liq. Sedans* 422 and 729, *Pot. Bromide*, *Pulsatilla*, *Salix Nigra* 627, *Viburnum Prunifolium* 720, *Uterine Sedative* 729.

UTERINE TONICS.

Actæa Rac., *Aletris Cordial*, *Aletris Farinosa*, *Caulophyllum*, *Celerina* (containing Celery, Coca, Kola, *Viburnum* grs. 5.—dr. 1), *Damiana* 234, *Hamamelis*, *Helonias Dioica*, *Hydrastis*, *Hydrastine*, *Hydrastinine*, *Pulsatilla*, *Stylosanthes* 691.

VAGINISMUS.

Cocaine 190 (7) (b.). *Salix Nigra*.

VAGINITIS.

1. When the case is seen early, no remedy gives so much relief as the prolonged use of the hot hip-bath, night and morning. In severe cases it will be well to add some Carbonate of Soda and a strong decoction of poppy capsules to the bath water. The bowels should be unloaded by purgatives. Vaginal injections of warm water, followed by the use of the following pessaries will be found most efficacious :—

- (a.) R Plumbi Acet. grs. 20, Ext. Opii grs. 24, Olei Theobromæ oz. 1, Glycerini fl. drs. 2. M. Divide into 8 pessaries and order one to be used every night.
- (b.) R Zinci Oxidi, *vel* Bismuthi Carbonatis grs. 80, Ext. Bellad. grs. 40, Olei Theobromæ oz. 1, Olei Olivæ fl. drs. 2. M. Divide into 8 pessaries.

2. In vaginitis, vulvitis and pruritus vulvæ, one part of **Camphor-Phenique** with 2 parts of pure Olive Oil, applied to the vagina on cotton, which is kept in place for 24 hours, relieves the distressing symptoms at once. (M. B. Cochran, M.D.).

Vide F. 1, **Leucorrhœa**, pg 1045.

VERTIGO.

1. R Hydrarg. Perchl. gr. 1, Glycerin fl. oz. 1, Tr. Cinchon Co. ad fl. ozs. 3, Ol. Menthæ Pip. mins. 25 M. Two small table-spoonfuls to be taken t. i. d. For the attacks of temporary dizziness to which the aged are liable.
2. *Acid Hydrocyan. Dil.*, Chloral Hydrate, *Pelletierine Sulph.* 586, *Pot. Bromide*, Quinine, *Quin. Valer.*, Valerian, Zinc Valerianate.

WARTS.

1. (Sp.) R Hydr. Perchl. grs. 15, Collodion oz. 1. M. Brush the warts carefully with this solution once a day. It is more efficacious and more convenient than other recommended formulæ.
2. (Sp.) R Argenti Nitratis dr. 1, Acidi Nitro-Muriatici oz. 1. M. Apply to warts with a fine brush and they get permanently cured in four days.
3. (Sp.) R Iodine parts 6, Acid Carbol. Cryst. parts 21, Alcohol parts $2\frac{1}{2}$, by Wt. After scraping the wart or cutting it down to a level with the skin, touch the wart with a few drops of the above solution. In a minute it becomes soft and allows of another application and sometimes even a third scraping, and a new application can be made without bleeding.

4. R Acidi Arseniosi part 1, Morphine Sulph. part 1, Calomel parts 8, Pv. Gum Arabic parts 18. M. Sprinkle this daily on cuticle. The surface should be denuded either with the knife or a blister. This is Esmarch's painless caustic powder for the removal of warts, tumours, &c.

5. **Electric Treatment.**—The wart is first thoroughly moistened with a warm solution of salt. Both needles are then thrust through it just above the surface of the skin, and the current of electricity turned on, one element after another being added until pain is felt. Five cells are sufficient. With most cases 2 sittings of five minutes each are sufficient to destroy growth which gradually dries up and falls away, leaving a surface at first slightly reddened, but which later on assumes the appearance of normal skin.

6. F. 3, Corns.

7. Acid Acetic Glac., A. Chromic 10, A. Nitric, A. Trichloracetic 749, Ammon. Chloride (applied moist), Argenti Nitr., Papain 542, Resorcine 611, Sabina (the dried leaves, or powder).

WHITLOW (PARONYCHIA.)

Taking the simplest form, first, it is a **localized inflammation of the skin of the finger of an erysipelatous character** which is generally due to an *animal poison*. Yet it is not seen as the result of an ordinary post mortem examination of a human body, but is met with on the hands of *cooks and poultry dealers who have to do with game which is high*. Some slight pinch or scratch is sustained, and, a few hours after, the finger begins to tingle and the skin to redden without any great swelling &c. **Treatment** is simple enough. **Nitrate of Silver** checks it at once if applied as a 20 grs. solution or slightly pencilled all over the reddened part and a little beyond with the wetted stick of lunar caustic.

The next in severity is the **superficial or subcutaneous whitlow** found usually about the nail or the tip of the finger but occasionally in other parts due to some slight injury or irritation such as is likely to occur in the *hands of nurses and housemaids who constantly use black lead and soft soap*. Here matter rapidly forms

with the usual painful throbbing but is ordinarily quite superficial and be rapidly evacuated without the least pain by **incising the cuticle** which is perfectly insensitive. Occasionally foreign body has found its way beneath nail, the matter forms there and gives agony from tension of unyielding structures. Judicious **cutting away of the nail** will relieve this if **near the margin**, but if **near the base** better **pare down nail** with a sharp knife till the matter is let out than to cruelly remove the entire nail.

The third form of whitlow is an **acute necrosis of the terminal phalanx** following periostitis and suppuration beneath the periosteum &c. Mere prick of a needle or pin may set it up &c. **A timely and free incision** is the only mode of saving the phalanx and *cannot be resorted to too early*, for if no matter be present, the inflamed periosteum will still be divided with great relief to suffering.

Then we have inflammation of skin and subcutaneous tissue on any part of the finger and may lead to the true **thecal abscess or to necrosis** of any one of the phalanges. Originating often in some slight puncture or poisoned wound, the inflammation is very acute and the tension and pain severe. *Leeching* may be of service *in the early stage of disorder*, but if it is not shortly arrested, *incisions* will be necessary. *Incisions on each side of the finger are safer than one on the centre*, that may unaware let out the tendons. (?)

2. Ichthyol 373 (17.). *Vide* pg. 782 (3.).

ANTISEPTIC SURGERY.

Under this little I include **accidental wounds and injuries, surgical or operation wounds, antiseptic dressing, &c.**

1. Rules for the antiseptic treatment of wounds:—

(a.) Arrest all hemorrhage. (b.) Remove all foreign bodies as dirt, detached pieces of bone &c. (c.) Purify with an antiseptic if foreign bodies have entered. (d.) Provide very free drainage in the most dependent part if possible. (e.) Bring parts into accurate opposition, like to like. (f.) Apply a large dressing sufficiently impregnated with a reliable antiseptic and very absorbent and elastic.

(g.) Bandage firmly and evenly to get elastic compression. (h.) Elevate the part to lessen blood pressure and effusion while the vessels are weak from the injury. (i.) Give absolute rest; change dressing as little as possible. Visible discharge is an indication if the dressing is reliable. (j) Attend to general health and give a free supply of good food and fresh air.

2. The treatment of Incised Wounds—Four suggestions—The needle superseded.—I have long entertained the idea that incised wounds, resulting either from accident or operation, could be successfully treated without having recourse to the needle.

The following methods have in practice been found quite satisfactory :—

(1.) *Narrow bands of ordinary sticking-plaster are drawn across the wound alternately in opposite directions.* The first strip, say, from left to right; the second from right to left, thus approximating the lips of the wound.

(2.) *Second method.* Taper the ends (one of each) of two narrow strips of plaster, to the dimension of a piece of thin cord. Fix the pieces one on each side of the wound, and at a short distance from the margin. Then draw the two pieces together making a reef knot of the tapered ends of the plaster.

(3.) *Third method.* Fix a piece of plaster on each side of the wound, and at a short distance from the edges. Over these place your catgut or silk, and over these again fix another piece of plaster, making sure that the arrangement is quite firm. Let the silk be long enough to meet and form a knot. By drawing on them the lips of the wound may be very easily brought together.

All these methods allow of antiseptic dressings being used over the wound. In No. 3 the plaster could be fixed along the whole length of the wound on each side, and as many ligatures as necessary used.

(4.) A fourth method might be practised in which an adhesive plaster spread on an elastic medium would be of service. Such a plaster, though urgently required, has not yet been manufactured.

By the adoption of some such plan the use of the needle might be done away with, and consequently much pain and apprehensible suffering on the part of the patient avoided. The first three methods above indicated have been found very satisfactory in practice, and have resulted in a very neat adhesion, without cicatrix, and without those marks as commonly left by the use of stitches. The ordinary plaster in use was employed, but I am convinced that it is not beyond the ordinary ingenuity of inventors to manufacture a contrivance similar to that suggested in No. 2, or again in No. 3—*i.e.*, with ligature attached either to the ends or to the sides of the adhesive substance. I would also suggest the manufacture of an adhesive plaster, spread on an elastic ground, an article which would supply a long felt want in the practice of surgery. (W. Carmichael, M.R.C.S., B.A.).

3. **Camphor-Phenique** mixed with an equal quantity of cotton-seed oil, forms one of the most agreeable antiseptic dressings to **incised, lacerated, or contused wounds** that I have ever used, preventing suppuration always. When properly applied upon gauze or absorbent cotton and kept in contact with the wounded tissues, and when suppuration has set in, it changes the character of the discharges completely, destroying all fœtor if well applied, and relieving pain and soreness sooner than anything that I have ever used. (M. B. Cochran, M.D.)

4. **In serious contusions and bruises** with severe pain the following is very useful :—

R Sodii Hyposulphis ozs. 4, Acidi Carbolicæ drs. 4, Glycerini ozs. 2, Aquæ C. (gallon) 1. A cloth saturated with the lotion is kept constantly on the injured part.

5. R Iodoformi dr. 1, Acidi Boracici drs. 2, Bismuthi Subnitratæ drs. 4, Vaselini ozs. 2. M. ft. ungt.

The ointment to be spread on a piece of absorbent cotton sufficiently large to cover the wound and a considerable amount of surface around it. The dressing seemed to be the best suited to the after treatment of amputation wounds. This can be left undisturbed for 4 to 6 days and there is never present the least dis-

agreeable odour so common when carbolic dressings are used. This dressing was used in over 400 cases of injury of various kinds including 10 gun shot wounds and numerous amputations and other capital operations and 2 deaths only occurred.

6. R Ol. Terebinth. parts 2, Ol. Lini part 1. M. An antiseptic and healing to wounds, for surgical purposes and for fistulas.

7. **Wet Antiseptic Dressings in Injuries of the Hand.**—Dr. W. Perrin Nicolson, of Atlanta, Ga., recently read a paper on this subject. He stated that for seven or eight years past he had looked after the surgery of several railroads and manufacturing establishments, and in that time had been called upon to treat more than three hundred hand injuries, representing all grades of injury from slight contusion to complete destruction of the larger part of the hand. The special point that was urged in the paper was the doctrine formulated by Verneuil—**never to use a scalpel in a hand injury.** The old teaching that when a finger was crushed you should go far enough behind the injury to secure a sound flap and amputate, was pernicious in the extreme, and had cost thousands of fingers that could have been restored to usefulness. Only such parts as were actually destroyed and pulpified should be removed, and all the tissues to come away could be amputated with the scissors. Projecting pieces of bone could be removed with pliers until reduced to the level of the fleshy parts. In compound fractures the parts should be coaptated as well as possible and the line of separation be determined by Nature and under strict antiseptic dressings. Such a slough was harmless. Another point to which attention was forcibly called was the utilization of blood-clot in filling up ragged injuries, and by its substitution the restoration of lost parts. When a finger was crushed off, the end should be trimmed with scissors and the clot utilized in building up a tissue over the bone. In reference to **dressings** the author said that he had tried almost all varieties, and had finally obtained the most satisfactory results from keeping the parts constantly bathed in a non-poisonous antiseptic solution.

In dealing with these wounds, they were first cleansed as well as possible and then bathed in a **sublimate solution.** Over all

wounds a piece of aseptic rubber tissue or oiled silk was placed, then iodoform and sublimate gauze, and finally over all a covering of rubber tissue, into which, at some convenient point, a small opening was made. The patient was then given a bottle of antiseptic solution, to be carried in his pocket if moving about, and instructed to pour, at frequent intervals, enough into this opening to saturate the dressings. He used almost exclusively **Listerine**, combined with a small amount of **Carbolic Acid** in the proportion of half an ounce of the former and half a drachm of the latter, in a six-ounce mixture. If there was much pain a small amount of aqueous extract of opium was added. These dressings were not disturbed until the third day, when they were removed under strict antisepsis, to preserve the integrity of the blood-clot. Wet dressings were substituted at the end of about a week by the ordinary antiseptic dressings kept moist by external covering of rubber tissue. Should sloughing occur, it was kept wet for a longer time with the antiseptic. Under this treatment pain was reduced to the minimum. Suppuration never occurred, and the separation of sloughs was facilitated by the warm moisture.

8. **The local and general treatment of Gangrenous Wounds and Diseases.**—Dr. Bedford Brown, of Alexandria, Virginia, recently read a paper thus entitled. Many years ago, Dr. Brown had determined to institute a series of experiments to ascertain the capability of local and general treatment of all gangrenous wounds and diseases that came under his care either for their prevention or arrest. The object was to find local agents possessing active properties as stimulants of vital action in the affected parts; also as means of disinfecting and deodorizing gangrenous sloughs, of hastening their final separation, and for the establishment of a healthy basis for granulation. In cases coming under his care he had found that the old deodorizers failed to accomplish these objects. He had then employed a solution, almost saturated, of **sulphate of zinc and dilute sulphuric acid** as a local application, which had seemed to meet all the requirements. The first cases in which it had been applied was according to the following formula:—

R Zinci sulphatis ozj ; Aquæ Oj ; Acidi sulph. dil. oz. ss. M.

After the free application of hot water at 110° F. the solution had been applied every three hours on bats of raw cotton. In the course of two days the sloughs had separated rapidly, leaving a perfectly clean, healthy basis for granulation. This solution evidently possessed active antiseptic properties. It was an admirable deodorizer, it was clean, and cleansed the parts effectually. In cases of great loss of sensation in the parts, weak circulation, reduction of vital action, and depressed vitality he knew of no agents better calculated to arouse nervous action and stagnant circulation, for, as soon as the living basement structure was exposed, it gave rise to intolerable pain. He had used this solution in all forms of gangrenous wounds and diseases—some limited, others extensive and associated with septicæmia—with benefit.

9. **Salicylic Acid in Gangrenous Wounds.**—First trim off the dead tissue, then cover the wound completely with *Salicylic Acid* and put over cotton wool and apply bandage and leave for 24 hours. This saves sloughing and gangrenous wounds from further destruction and heals them.

10. **A non-poisonous, non-irritative antiseptic dressing.**—To obtain a non-irritative dressing which should at the same time possess great antiseptic properties has been the aim of surgeons for some time past. Drs. F. T. Heuston and C.R. Tichborne state that some months since they commenced to experiment with Naphthalin and Sulphite of Zinc, and the latter proved so successful that the authors claim that they believe they are warranted in recording that salt as non-poisonous, non-irritative, and highly antiseptic, while its application is extremely simple. In applying the dressing, a piece of gauze which is to be placed in contact with the wound is usually dipped in a weak carbolic solution, though this is not essential, and then three or four layers of dry **Sulphite of Zinc** are applied to the whole, being retained in position by a simple gauze bandage.

Sulphite of Zinc is best prepared by mixing in solution 6 parts of Zinc Sulphate and $5\frac{1}{4}$ parts of Sodium Sulphite. The new salt forms slowly and falls out as a white crystalline precipitate ; it is very insoluble in water, but soluble in an excess of Sulphurous Acid.

The usual method employed by the authors is to tinge the gauze with an organic dye, a fact which affords an easy way of determining whether the gauze, however old it may be, possesses its antiseptic properties. If a little gauze is placed in water and acidulated with sulphuric acid, it at once bleaches from the free sulphurous acid; when wet or in solution, it suffers a slow oxidation, hence its antiseptic power. The gauze should first be thoroughly washed and boiled so as to sterilize it, and then upon this gauze is poured zinc sulphate and sodium sulphite in equal parts; when thoroughly mixed the whole is allowed to stand twelve hours. The zinc sulphite is deposited in and around the fibres of the fabric in microscopic crystals, but soft and even unctuous to the feel. Sodium sulphate of zinc of course results in the deposition which follows the union of these two substances, and while the greater part remains in solution the gauze should be passed twice under rollers submerged in water with the object of removing all traces of the sodium sulphate which might remain. The gauze may be dyed with the twofold object of watching the progress of the discharges, and for the purpose of branding it distinct from other surgical dressings. It is generally acknowledged that the antiseptic property of Sulphurous Acid which is one of our most efficacious antiseptics is perpetuated through its salts. It has been shown that sulphite of zinc is always oxidizing when in solution, and that this unstable condition of sulphite results in the production of a fluid craving for oxygen, which is antagonistic to germ life. The authors give the report of 17 cases of the **various forms of major operation**, in all of which union by first intention appears to have been obtained.

11. **Cellulose as a dressing.**—Dr. Fisher claims following advantages of it :—

(a.) It is absolutely free from substances capable of exciting putrefaction. (b.) It has a very low sp. gr. (c.) It produces neither eczema nor erythema upon the epidermis. (d.) It retains moisture and heat perfectly for more than 24 hours. (e.) It never adheres to granulating wounds on the surface of the skin. (f.) It adapts itself perfectly to the outline of the place of application. (g.) It is much cheaper than other materials heretofore used for similar purposes.

12. A dilute solution of Sulphurous Acid has been found to exert a remarkable action in allaying the pain of wounds produced by Nitric Acid.

13. Subnitrate of Bismuth as a wound dressing has yielded excellent results. In the case of granulated surfaces following burns, it diminishes the amount of granulations, the contraction of which, when allowed to develop, is a frequent source of deformity.


14 Cotton Wool Dressings.

Purified Cotton Wool.—Macerate the commercial cotton wool for the space of ten minutes in Benzol, press out the liquid, and allow the wool to dry by exposure to the air. This treatment has for its object the removal of any grease, fatty matters, and resinous matters, which may be present in the samples, and thereby enables them to absorb the medicating substances more easily. Many greasy samples of cotton wool will not mix with watery liquids at all, and cotton which is impregnated with oils or resinous substances absorbs the following substances irregularly, yielding a preparation which is far from uniform in quality.

Boracic Acid Cotton.—R Purified cotton wool q. s., Boracic Acid 10 parts, water 90 parts. Dissolve the boracic acid in the water at a temperature of 60° C. (140° F.). Saturate the purified cotton wool with this solution, press it, dry it, and preserve it in corked bottles having a very wide mouth.

Salicylic Acid Cotton.—R Purified cotton wool 100 parts, Salicylic Acid 10 parts, Strong Spirit 100 parts, Glycerine 1 part. Dissolve the salicylic acid in the alcohol, add the glycerine to this solution, saturate the cotton wool with the liquid. Press out the superfluous liquid, and dry, &c., as above.

Iodized Cotton.—R Iodine 1 part, Purified cotton wool 12 parts. Enclose the iodine in some filter paper, and place it at the bottom of a flask with a wide mouth, then introduce the cotton wool, and close the flask by covering the mouth. Place the flask in a moderately warm place until the cotton wool appears to be uniformly coloured by the iodine.

 This preparation must be kept in *stoppered bottles* with wide mouths, placed in a *cold place*, and *out of the light*.

Iodoform Cotton.—R: Iodoform 2 parts, Ether 10 parts, Strong Alcohol 20 parts, Glycerine 10 parts, Purified cotton wool 30 parts. Dissolve the iodoform in the ether and alcohol mixed ; add the glycerine to this solution, and saturate the cotton wool with this liquid. Let it dry by exposure to the air. Draw the cotton out and keep in glass-stopped bottles, with a wide mouth, closing well.

15. Indications for Drainage in Abdominal Section or Surgery.—The following classification of cases demands drainage :—

(a.) Where the operation has been of long duration, and there has been much manipulation, leading to the belief that excessive secretion from the irritated membrane will ensue. (b.) Where extensive raw surfaces or bleeding adhesions are left, or where bleeding from any other cause is to be feared. (c.) Where there is existing peritonitis or ascites. (d.) Where septic matter has escaped into the peritoneum, or where portions of tumour are left. (e.) Where the disease is malignant and subsequent inspection is to be feared. Large quantities of fluid undoubtedly can be absorbed before septic inspection can take place, and, as a rule, drainage is much more frequently indicated in old than in young people. As a rule in all cases of doubt the drainage tube should be used. The tube also serves as an important indicator to the surgeon in cases where excessive bleeding is to be feared ; and by the injection of perchloride of iron through the tube, Tait was able to control three cases of hemorrhage. (f.) The abdominal drainage tube properly used, does not increase the mortality after laparotomy. (g.) Confidence in this fact is necessary for a correct determination of cases requiring drainage. (h.) Frequent careful cleansing of the tube is of the greatest importance. (i.) The few annoying sequelæ attending the use of the drainage tube can be avoided or easily cured. (j.) It is safest to use the drainage tube too often rather than too rarely, just as we would in case of doubt use any other precautionary measure. (k.) In removal operations upon the uterine appendages the single straight glass tube drains, not only the hollow of the vagina—the natural sink of the peritoneum—but also the whole field exposed in the operation. But

in other cases as in general prevalent peritonitis, it may be necessary to drain in addition to the hollow of the sacrum, the renal gutters, or other parts of the peritoneum. And if the tubes are used not only for drainage but also for subsequent peritoneal irrigation, the use of 2 or more tubes, placed wherever indicated, is of great value. In some cases it is desirable to use a tube combined with a capillary drain of gauze or wick, or even gauze or wick alone ; placed in strips from the cavity or part to be drained to the abdominal wound. Capillary drainage is, in many instances, a most desirable method ; possessing the advantage of promptness, thoroughness and complete exclusion of air ; at the same time giving entire rest to the patient and to the parts surrounding the drain, and permitting more movements of the body. The determination of length of time during which the peritoneal cavity remains open to drainage is of importance in connection with the use of the abdominal drainage tube. Tait puts this limit down at 70 or 80 hours after the operation, after which irrigation of the peritoneal cavity becomes impossible through the drainage tube on account of adhesion. The duration of the general drainage depends to a great extent upon the nature and treatment of the case (Tait).

16. **Other remedies for wounds, injuries and anti-septic surgical dressings are :—***Acid Boracic* 6, *A. Carbolic* 9, *A. Sulphurous*, *Aluminii Acetas*, *Aristol* 754, *Aseptol* 755, *Beta-Naphthol* 98, *Boroglyceride* 756, *Collinsonia Can.* 210, *Collodium*, *Collodium Novum* 212, *Collodium Stypticum* 213, *Eucalyptine* 264, *Hydrogen Peroxide* 354, *Ichthyol* 372, *Iodoform* 392, *Iodol* 396, *Jatropha Cur.* 427, *Kieselguhr* 439, *Lister's Double Cyanide of Zinc and Mercury Dressings* 493-4, *Lobelia* 467, *Menthol* 492, *Naphthalin Dressings* 502 and 504, *Ol. Menthæ Pip.* 523, *Quebracho* 591, *Resorcine* 612, *Sal Alembroth* 769, *Sanitas Fluid* 646, *Sanitas Oil* 640 and 645, *Sodii Fluosilicas* 662, *Thymol*, *Tr. Benz. Co.*, *Tribromophenol* 712.





PART III.



CONTENTS:

Antipyretics, Arterial Murmurs, Chloroform Narcosis or Anæsthesia, Death Signs, Proofs of Death, Causes of Sudden Death.

Significance of certain symptoms in diseases of children, Ocular symptoms as aids in Diagnosis, Pododynia, Cutaneous and Deep Reflexes, Diagnostic importance of certain Smells in the sick room, Low Temperatures in Disease.

Diagnostic importance of certain Smells in the sick room, The Tongue as a diagnostic point in disease, with indications for treatment, Diagnosis of, and differential diagnosis between, important diseases.

Temperature, Pulse, Respiration ratio in health and disease, The Prognostic value of the number of Respirations in Pulmonary affections, Brief practical notes on therapeutics, medicine, and physics, medical hints, &c., &c.



ANTIPYRETICS.

As the **hydrotherapeutic** treatment of fevers, with its general salutary effects in reducing bodily temperature and febrile disorder, subverting concomitant abnormal action and in restoring the normal process of vital economy, is commendable and undoubtedly very beneficial, but as it is generally so inconvenient and troublesome, especially in the form of baths, even in hospitals, where every appliance therefore is at hand, as to greatly restrict its application &c., and rendering it almost impossible, except in children, and by the moderate application of *ice and cold water* externally and the more or less free use thereof internally.

Besides these hydrotherapeutics, there is the necessity for some more direct, convenient and effective antipyretic and febrifuge that will suppress the primal aberration and hyperpyrexia *ab origo* and act in general as a *substitute* therefore as well as *adjuvant to the hydriotic measures* when they are desirable &c. Now a large class of *antipyretics and powerful febrifuges are strangely overlooked and generally neglected*. These are embodied in those varied *sanative and medicinal agents* known as **acids** *mineral, vegetable and animal*, most of which are endowed with *refrigerant* and *antifebrile* properties and many with additional *germicidal, antizymotic, antiseptic, disinfectant, depurative and other sanative attributes* that render them specially effective in preventing and counteracting pyrexial diseases of the most malignant and desructive as well as ordinary character with minor affections of various kinds. Furthermore besides their antipyretic and febrifuge power, they differ materially from one another in having some special property adapting them for the varied states and conditions or individual peculiarities of different diseases &c. Thus for instance, **Hydrocyanic Acid** is a prompt, potent and persistent antipyretic and febrifuge, speedily allaying irritation, fever and heat, and causing chilliness and depression. It rapidly reduces excitement of brain, nervous, muscular or sensory and excito-motor system, heat and circulation, with cell, molecular and vital activity in general and is especially useful in cerebral, nervous, muscular and cardiac hyper-excitability, with hyperæsthesia, irritations, inflammations, fevers and other disorders of a sthenic type both general and local. It

is in fact a powerful and prompt cerebral, nervous, arterial, muscular, molecular and systemic sedative but from its potency must always be exhibited with much care and discretion, in small and not too frequent doses, properly diluted or in the form of **Cherry Laurel Water**. As its effects are decided and prolonged, give small and frequent doses. Dilute acid 1 or 2 drops and aqua lauro-cerasi 10 to 30 drops. **Hydrobromic Acid** is another active antipyretic and febrifuge of similar general applications but less energetic and depressant than Hydrocyanic Acid, having besides valuable antizymotic, antiseptic, depurant and other properties that render it particularly applicable to the treatment of *sthenic forms and stages of zymotic, septic and nervous fevers*, as of variola, scarlatina and allied malignant and contagious with irritation, hec[tic] and other non-infectious diseases. But as many febrile and malignant diseases are *sthenic* from the beginning or of an *adynamic nature*, antipyretics, febrifuges, nervines and other remedies of tonic and supporting character are required such as **Nitric, Hydrochloric, Nitro-Muriatic, Sulphuric, Phosphoric, Lactic, Citric and other acids** with their correlative substances both medicinal and alimentary; these are also germicidal, disinfectant, depurant, corroborant &c. and some of them in various alimentary combinations possess additional nutrient attributes. They not only reduce bodily heat and fever but also counteract the basic and underlying abnormality; some supply nourishment whilst most of them promote digestion and nutrition, circulation, [secretion, diuresis, depuration and defecation.

The comparative value of Antipyrin, Antifebrin and Phenacetin as antipyretics :—

As regards *efficacy* the clinical observations indicate that *Antipyrin stands first* and that there is little to choose between Antipyrin and Phenacetin. As regards *safety*, the advantage lies with the *Phenacetin* since the subnormal temperature has not been observed from the use of Phenacetin, as is often the case with Antipyrin and Antifebrin, and that *collapse never follows its employment*, although it is seen after the use of Antipyrin. As regards *rapidity of action*, *Antipyrin* probably on account of its solubility, comes *first*, *Antifebrin* second, and *Phenacetin* third. In the use of *Phenacetin* the fall of temperature is very

gradual and the minimum is not reached for 3 or even 5 hours after the administration of the drug. The *duration of antipyretic effect is more marked after the use of Phenacetin* than either of the others, while as regards the *certainty of action the same sequence is obtained as regards rapidity*,—that is, Antipyrin, Antifebrin, Phenacetin. As regards, the unpleasant feature attending the use of these drugs in the climate of India, it has been found that Phenacetin is followed by just as profound *sweating* as either Antifebrin or Antipyrin, in some exceptional cases, but as a rule the *sweating in case of Phenacetin is moderate*. Of course it is to be expected that *the use of these drugs does not in any way shorten an attack of fever and that in remittent fever they have no abortive effect*. The conditions in which antipyretics are indicated are; therefore, reduced to cases of *hyperpyrexia*, when the life of the patient is threatened by the height of the fever itself; then the temperature must be reduced at all costs and in most cases the most rapid antipyretic is the best. In such cases Antipyrin is worth administering; but when the temperature is not so high as to immediately of itself endanger life, it may nevertheless at 103° or upward lead to structural changes, especially in the muscular tissue of the heart, which constitutes the great danger of long continued. Here a reduction of temperature becomes imperative. In many cases this may be best accomplished by means of the cold pack; but there are so many practical difficulties in carrying out such a practice that we are reduced to a choice of antipyretics. Phenactin will best answer the purpose; especially as it possesses a certain degree of soporific power, so much so that in cases of slight feverishness, accompanied by great restlessness and insomnia, small doses of Phenacetin will ensure a quiet peaceful night, with no headache in the morning. Finally in *heat apoplexy, sustroke, and hyperpyrexia* generally *Antipyrin preferred*. (?) Vide pg. 558.

ARTERIAL MURMURS.

1. A murmur is sometimes audible in the subclavian artery immediately below the clavicle, which is not the result of organic disease or of pressure upon the artery, and is most common in *anæmic and other*

conditions where there is defective adaptation of the arterial wall to the blood current. 2. The various circumstances influencing the production and rhythm of the subclavian murmur are *dependant upon its anatomical position and the respiratory movements.* 3. Murmurs may be often heard *in anæmia in the large branches of the aorta within the chest.* 4. The respiratory movements have a marked influence on the character of anæmic murmurs in arteries arising within the thorax. 5. The murmurs heard in the subclavian and pulmonary regions in some cases of *phthisis* as much as they may exist without phthisis, must not be regarded as diagnostic of that disease and are not produced by pressure of consolidated lung in most cases where they coexist with phthisis. 6. Murmurs may be originated in intrathoracic arteries *from traction upon them by the displacement of the heart in pleuritic effusion.*

CHLOROFORM NARCOSIS OR ANÆSTHESIA.

Causes and Prevention of Death from Chloroform.

Experiments on animals have shown that the cerebrum is first affected, next the cerebellum, then the medulla spinalis and lastly the medulla oblongata, the centres of respiration and circulation being ultimately paralysed. Aside of cases in which death is produced due to *shock* or manifestly to the *entrance of foreign bodies into the air passages* (artificial teeth, chewing tobacco, vomitted matters) the occasional appearance of a *peculiar idiosyncrasy to chloroform* cannot be fairly denied. As fatal accidents occur frequently in *minor operations*, the cause is due to *asphyxia* caused by *reflex action* because narcosis was not profound enough in these cases. The *failure of the heart* occasionally observed at the beginning of the narcosis must be attributed to *reflex irritation of the trigeminus*, the branches of which are the first nerves to be exposed to the chloroform vapours. The age of patient does not seem to influence the issue of narcosis ; *fatal accidents are more frequent in the advanced stages of narcosis.*

The ordinarily employed method of improvising a funnel with a towel and closing the small aperture with a cotton is as good as any. Only pour the chloroform on the part of it which is not directly in contact with the skin. Give very little chloroform at the commencement, in order to accustom the patient to it and prepare him for the feeling

of suffocation. Then when the first inspirations are over, pour on the chloroform very often, otherwise much time will be lost and complete anæsthesia obtained only with difficulty.

To prevent a lethal issue in chloroform narcosis we should in the first place perform all minor operations without constitutional anæsthesia (resorting to Cocaine pg. 194-6, freezing or Ether spray pg. 26) or, where general anæsthesia is necessary, await the induction of complete narcosis, as shown by the disappearance of palpebral reflex, before beginning to operate. Previous evacuations of the bowels and bladder ought to be provided for the secure unimpeded motion for the diaphragm. Likewise all closely fitting articles of toilet or garments are to be removed from the neck, chest and abdomen. The lungs and heart of the patients ought to be carefully examined and that in subjects affected with heart disease, epilepsy or alcoholism the utmost caution is to be used. On this point the opinions differ: It is said by some that there is but one **contraindication** to the employment of chloroform viz. *advanced phthisis*. Affections of the heart are not contraindications. Hysterical subjects should be distrusted. *Alcoholic subjects* are very tedious and difficult to bring under the influence of chloroform but they are not dangerous.

A point to be observed at the commencement of the narcosis is to allow of a sufficient inhalation of air. Attempts at vomiting are no cause to withdraw the chloroform as they often disappear spontaneously but actual vomiting calls for an intermission of inhalation, a slight raising of the trunk and sideward movement of the head. The mouth ought to be then carefully cleansed. *Pulse and respiration require continual watching*; a sudden *mydriasis* (paralysis of the oculo-motor nerve) indicates the approach of collapse and necessitates prompt action. *The tongue is to be seized at the tip and drawn forwards*; *luxation of the lower jaw* may eventually be indicated and is readily accomplished by the so-called *Heiberg manipulation*. *To secure a free admission of air, neck and head are to be lowered and the thorax raised*. Kappeler recommends, to catch hyoid bone with a small, sharp hook externally and to draw it forward. When the **respiration is noisy**, pass into the back of the throat, a sponge mounted on a forceps, in order to remove the mucosities existing there as they frequently do in patients suff-

ering from colds. If however **respiration** stops it is not prudent to lose too much time with stimulation by Ammonia, cold douches, (especially serviceable when directed to cardiac region) rubbing of the skin ; but *Sylvestsr's artificial respiration* or *galvanic irritation of the phrenic nerves* are to be resorted to and if necessary persisted in for 2 hours. *If syncope be present artificial has to be accompanied by a rhythmical pressure to the cardiac region.* Acupuncture and electro-puncture of the heart should not be practised. Nelaton recommended *half inversion of the patient* (*Vide* pg. 1244) and Schuther saved 3 patients by *total inversion*. Liebreich proposes *injections of Strychnine in conjunction with artificial respiration*. In cases of *asphyxia*, *Nitrite of Amyl* may also be tried ; *tracheotomy* is to be performed when *foreign bodies* are suspected in the *air passages*.

Finally it is worth remembering that several narcoses of long duration ought not to be performed in succession in a closed room, but that ventilation should take place after every operation.

Many of the remarks are equally applicable to **ether**.

In 1880, Dastre and Morat, starting with the assumption that the cause of chloroform *syncope* was to be found in the action of the chloroform vapour on *pneumogastric*, attempted to prevent arrest of the heart during chloroform narcosis by means of *Atropine*. He employs a solution containing 1/10 of a grain of *Sulphate of Atropine* and 1½ grs. of *Hydrochlorate of Morphine* in 160 mins. of distilled water. Of this solution a Pravaz syringeful is injected 20 to 30 minutes before administration of the chloroform. The advantages of this method are claimed to be its safety and the rapid production of anæsthesia, rarely requiring more than 2 minutes, the absolute rest of the patient, the readiness with which the patient is aroused and the slightness of the after effects. ☞ But the experiments of the "HYDERABAD CHLOROFORM COMMISSION," show that *Atropine* thus administered does no good while *Morphia* does help &c. *Vide* para XIII, pg. 1289.

To terminate the Chloroform Narcosis.

For this a peculiar device is mentioned and used by Dr. Shirmer for many years and which often succeeded in producing

inspiratory movements when other means failed. It is also employed to produce rapid recovery in operation. It consists in *irritating the nasal mucous membrane* ; that the *Fifth Nerve retains its sensibility longer than any other part in narcosis* and that reflex action may be induced through this nerve when other irritations failed. *He uses simply a rolled piece of paper which he turns in the nose. In dangerous cases he dips the paper into Ammonia.*

The Hyderabad Chloroform Commission.

The following are the **practical conclusions** which the Commission think may fairly be deduced from the experiments performed by them on different animals :—

I.—**The recumbent position** on the back and absolute freedom of respiration are essential.

II.—If during an operation the recumbent position on the back cannot, from any cause, be maintained during chloroform administration, the utmost attention to the respiration is necessary to prevent asphyxia or an overdose. If there is any doubt whatever about the state of respiration, the patient should be at once restored to the recumbent position on the back.

III. To ensure absolute freedom of respiration, tight clothing of every kind, either on the neck, chest, or abdomen, is to be strictly avoided ; and no assistants or bystanders should be allowed to exert pressure on any part of the patient's thorax or abdomen, even though the patient be struggling violently. If struggling does occur, it is always possible to hold the patient down by pressure on the shoulders, pelvis, or legs without doing anythings which can by any possibility interfere with the free movements of respiration.

IV.—An apparatus is not essential, and ought not to be used, as, being made to fit the face, it must tend to produce a certain amount of asphyxia. Moreover, it is apt to take up part of the attention which is required elsewhere. In short, no matter how it is made, it introduces an element of danger into the administration. A convenient form of inhaler is **an open cone or cap** with a little absorbent cotton inside at the apex.

V.—At the commencement of inhalation care should be taken, by not holding the cap too close over the mouth and nose, to avoid exciting, struggling, or holding the breath. **If struggling, or holding the breath** do occur, great care is necessary to avoid an overdose during the deep inspirations which follow. When quiet breathing is ensured as the patient begins to go over, there is no reason why the inhaler should not be applied close to the face; and all that is then necessary is to watch the cornea and to see that the respiration is not interfered with.

VI.—In children, crying ensures free admission of chloroform into the lungs; but as struggling and holding the breath can hardly be avoided, and one or two whiffs of chloroform may be sufficient to produce complete insensibility, they should always be allowed to inhale a little fresh air during the first deep inspirations which follow. **In any struggling persons**, but especially in children, it is essential to remove the inhaler after the first or second deep inspiration, as enough chloroform may have been inhaled to produce deep anæsthesia, and this may only appear, or may deepen, after the chloroform is stopped. Struggling is best avoided in adults by making them blow out hard after each inspiration during the inhalation.

VII.—The patient is, as a rule, anæsthetised and ready for the operation to be commenced when **unconscious winking is no longer produced** by touching the surface of the eye with the tip of the finger. The anæsthetic should never under any circumstances be pushed till the respiration stops; but when once the cornea is insensitive, the patient should be kept gently under by occasional inhalations, and not be allowed to come out and renew the stage of struggling and resistance.

VIII.—As a rule, no operation should be commenced until the patient is fully under the influence of the anæsthetic, so as to avoid all chance of death from surgical shock or fright.

IX.—The administrators should be guided as to the effect entirely by the respiration. His only object, while producing anæsthesia, is to see that the respiration is not interfered with.

X.—If possible, the patient's chest and abdomen should be exposed during chloroform inhalation, so that the respiratory movements can be seen by the administrator. If anything interferes with the respiration in any way, however lightly, even if this occurs at the very commencement of the administration, if breath is held, or if there is stertor, the inhalation should be stopped until the breathing is natural again. This may sometimes create delay and inconvenience with inexperienced administrators, but experience will make any administrator so familiar with the respiratory functions under chloroform that he will in a short time know almost by intuition whether anything is going wrong, and be able to put it right without delay before any danger arises.

XI.—If the breathing becomes embarrassed, the lower jaw should be pulled, or pushed from behind the angles, forward, so that the lower teeth protrude in front of the upper. This raises the epiglottis and frees the larynx. At the same time it is well to assist the respiration artificially until the embarrassment passes off.

XII.—If by any accident the respiration stops, artificial respiration should be commenced at once, while an assistant lowers the head and draws forward the tongue with catchforceps, by Howard's method, assisted by compression and relaxation of the thoracic walls. Artificial respiration should be continued until there is no doubt whatever that natural respiration is completely re-established.

XIII.—A small dose of morphia may be injected subcutaneously before chloroform inhalation, as it helps to keep the patient in a state of anæsthesia in prolonged operations. There is nothing to show that atropine does any good in connexion with the administration of chloroform, and it may do a very great deal of harm.

XIV.—Alcohol may be given with advantage before operations under chloroform, provided it does not cause excitement, and merely has the effect of giving a patient confidence and steadying the circulation.

The Commission has no doubt whatever that, if the above rules be followed, chloroform may be given in any case requiring an

operation with perfect ease and absolute safety so as to do good without the risk of evil. (Drs. E. Lawrie, T. L. Brunton, G. Bomford, R. D. Hakim. Hyderabad).

A New Method of producing Anæsthesia with Chloroform.

This new method has as its basis the principle of giving small and continuous doses. It is not in reality new, but is a plan which has never been widely adopted, nor received the recognition which it is believed it deserves. The method was described in detail by Dr. Léon L'abbé, in 1881, before the Académie de Médecine. In 1883 Dr. Peyraud, of Bordeaux, described a similar procedure, and insisted, in several communications, upon its advantages. Now, M. Marcel Baudoin, lately of the Hôpital Bichât has given another full account of it.

As regards the administration of the chloroform the process is very simple. No apparatus or special inhaler is employed. A folded handkerchief is laid upon the face carefully, so as to cover the nose and mouth. It is pulled up a little in the middle so as to make a kind of cone. Then two, three, or four drops of chloroform are poured on the handkerchief, the face being carefully watched for signs of reflex syncope. It may be necessary at first to raise the handkerchief for a moment, but after the first inhalations this should not be done. At the end of a quarter of a minute, four or five more drops are allowed to fall upon the most elevated part of the handkerchief. At the end of half a minute more four to six drops are poured out. This process is continued for fifteen or twenty minutes, when the patient will be anæsthetised. Only seven or eight grammes of chloroform will have been used, whereas by other methods twenty to thirty grammes are usually required.

SIGNS OF THE MORIBUND CONDITION.

Important Death Signs.

1. A very certain sign is the *suppression of the catamenia* as a diversion in favour of the acknowledged vital functions. This may occur months before catastrophe arrives. 2. *Colliquative diarrhæa*

with *muscular relaxation* comes much later and is a less important sign, needing corroboration with other signs, as *epistaxis*, or *hemorrhagic alvine discharges* as in typhoid, or *purpuric spots*, as in malignant forms of exanthemata. 3. *Shrunk retinal arteries and a pallid disk* are more important. 4. *An abnormal appetite* may be noted in the last stages of phthisis, in low fevers, in cerebral complications. It may be interpreted, as an initiative desire to overcome the sense of extreme exhaustion. 5. *Optic delusions*, such as *picking at the bed clothes*, *extreme muscular prostration and subsultus tendinus*, are most unfavourable signs and the *dilated glazed eye* and the *relaxed smile* are still later signs of the approaching end. 6. *An intermittent pulse* is nearly always an alarming symptom, especially when it occurs in the course of a *debilitating disease*. In more than one instance, in *cancer and consumption*, it is known to be a virtual herald a fortnight before the occurrence of death. In all dubious cases the *sphygmograph* may be of value. 7. After the intermittent pulse may appear many quite obvious signs as *ashy tint of face*, *purple hued nails*, *the distinctive white lines around the orbicularis* seen in serious forms of scarlatina, *the whispering voice*, *pleading look*, and *grunting respiration*. All these signs are of hindered circulation. 8. *Subsultus*, *hiccough*, *convulsions*, which appear later are signs of disordered nervous system. 9. *Left unilateral dropsy beginning in the foot* is a sign of approaching end and with this is conjoined *coolness of the ears, tip of nose and malar regions* to be followed, much later, by coldness of the patellar surface. These symptoms may come and go for weeks at irregular intervals but are ominous of evil. 10. A *temperature of 105° long maintained*, renders prognosis unfavourable with but little qualification. A *temperature below 95°* is very serious. 11. *Coma* is the surest sign of approaching death. 12. A *rate of respiration thrice the normal and continuous* is also unfavourable; the only exception and partial one being in *uræmic asthma*. *Cheyne-Stokes* respiration, like *uræmic asthma*, and the *exhilaration of uræmic poisoning*, may exhibit itself at short intervals. 13. A *persistent, up and down movement of Pomum Adami*, as temporarily seen in the act of swallowing is the most valuable sign of dissolution. It appears very early in certain forms of dissolutive states usually in the period of tracheal râles. In phthisis it may precede

the catastrophe a fortnight before or longer. When appearing in diphtheritic croup, neither tracheotomy nor intubation is available. This sign is always absent in drunkenness and is present in compression of brain or moribund condition and hence both are distinguished. (Dr. John Shody).

PROOFS OF DEATH.

Dr. Richardson read the following paper on the above subject before the Medical Society of London, in December 1888 :—

The various circumstances which might lead to a doubt as to absolute death were : (a) *Changes of colour of the dead body.* He related a case in which a woman had died of what was believed to be *suppressed scarlet fever*. The body at the time of death was of a dark hue, but afterwards the cheek assumed a red colour, and the body also took on a life-like red tint. He had since seen at least two similar cases, and their explanation was simple ; the blood became oxidised after death, the necessary gas transpiring through the skin. (b.) *Retention of warmth.* This was likely to occur especially in cases in which death was sudden, when rigidity developed early, and the temperature immediately after death went up a few degrees. (c.) *Movements of the body, or supposed movements.* The former occurred only in cases of Asiatic cholera ; they were often life-like in their character, and in strong people who had died rapidly they might continue for at least an hour after death. The commonest supposed movements observed by the friends was a gentle heaving of the breast. (d.) *Retention of life-like expression after death.* This happened most frequently in children. (e.) *Prolonged preservation of the body from putrefactive decomposition.* The post-mortem change usually set in between four and twenty-four hours after death, but it might be delayed for eight or nine days in exceptionally cold and dry seasons ; in those of spare constitutions and suffering from wasting disease it might be retarded even when weather and other circumstances were favourable ; *copious draughts of alcohol before death* might also tend remarkably to act as a preservative. (f.) *Suspension of the ordinary phenomena of vital action after some forms*

of induced narcotism. He quoted as a historical fact of interest in this connexion the use by Jewish women of a *narcotic wine*, which they administered to those about to die a lingering death by crucifixion at the hands of the Romans. This was called "morion," the wine of Mandragara, the "death wine" of Pliny. *Chloral Hydrate* acted in a similar way, producing such a deep narcotism in large doses that it was almost impossible to say whether the person were alive or dead. (g.) *The cataleptic state, idiopathic or traumatic*. Dr. Richardson had observed a case of a man who became cataleptic, and almost the only sign of life was the sustainment of animal warmth. From a first attack the patient recovered completely, but a second proved fatal. *Traumatic catalepsy was induced by lightning strokes, by the reception from a battery of a high tension electric discharge, and by severe blows and contusions of the head*. In 1869 there occurred a case of a man who was rendered cataleptic by a lightning stroke, and who narrowly escaped living burial.

The actual or veritable proofs that had to be made in order to arrive at a satisfactory demonstration that **life was extinct** were next described. These proofs were named as ten in number and they were taken up in the following order. 1. *Respiratory failure*, including absence of visible movements of the chest, absence of respiratory murmur, and absence of watery vapour from the breath ; this test was a fallacious one, for apparent movement and murmur might be absent, and the mirror test was useless. 2. *Cardiac failure*, including absence of arterial pulsation, of cardiac motion, of cardiac sounds, and absence of turgescence, of filling up of the veins on making pressure between them and the heart. The pulse as a sign was of more value than the cardiac motion or sounds, and yet even it might be undetectable, although the body were alive and capable of recovery. There was maintenance of life when the circulatory apparatus was working at low pressure. An animal under chloroform might pass into this condition, the heart being partially filled and emptied at each beat, and yet this partial action was sufficient to keep the animal alive, though scarcely any of the signs of life were manifest. This *cataleptic, syncopal or hibernating condition* was seen in animals

while in a state of suspended animation. The proof by pressure on the veins was one not likely to deceive. A band should be bound round the wrist, a cardboard being arranged in front so as to relieve the arteries from pressure. If life were not extinct, turgescence of the dorsal veins of the hand would soon be apparent. 3. *Reduction of the temperature of the body below the natural standard.* A diminution of a few degrees did not signify death, as recovery had taken place even after a falling of the temperature to as much as 70° F. below normal. A fallen temperature as a proof of death should always be considered only in combination with others. If the temperature within the mouth were found lower than that of the surrounding atmosphere, it would be a strong presumptive sign of death. 4. *Presence of rigor mortis and muscular collapse.* Rigor mortis might be imitated by rigidity from cold or by tetanus, but the history would distinguish, and tetanic spasm produced distortion of limbs. 5. Coagulation of blood in the veins. This, when present with rigor mortis, was an absolute sign of death, but both might be absent for even a lengthened period. 6. *Presence of putrefactive decomposition.* Its presence in the eyeball indicated certain dissolution; but it was not in all animals an invariable sign of death, for frogs had been kept by amyl in a state of suspended animation until the web of the foot had commenced to decompose, and yet the animal had recovered. 7. *Absence of red colour in semi-transparent parts under the influence of a powerful light,* such as that from a magnesian lamp. 8. *Absence of muscular contraction under the stimulus of an electric or galvanic current.* The handiest apparatus for this test was a small faradic battery, and needles should be thrust into the muscles of the forearm. 9. *Absence of a red blotch under the skin after the subcutaneous injection of ammonia.* This test the author looked on as particularly valuable. 10. *Absence of signs of rust—oxidation—*of a bright steel needle after plunging it deep into the tissues. This test was only of value for a short time after death, as later rust would follow from oxidation of the needle by the acid products of decomposition.

In the last part of his paper Dr. Richardson indicated the precise mode in which the practice named should be directly

applied, taking up the steps of the necessary examinations one by one, pointing out the relative values of each, and giving, so to speak, in a condensed form, the diagnostic formula for an absolute proof of death in every doubtful case, without any operative procedure that was itself inimical to life. He recommended the **practical application of tests** in the following order. 1. Apply the fillet to the wrist and examine the veins at the back of the hand. 2. Open a vein at the bend of the elbow and seek for stringy coagula; open, if necessary, two or more veins. 3. Apply the electric test. 4. Inject ammonia hypodermically. 5. Examine by strong light for absence of red colour from the transparent tissues. 6. If any doubt still remained, and rigor mortis had not developed, **let the body be kept in a damp room at 84° F.**; this would speedily bring about decomposition if the body were dead, and would favour recomposition or restoration if life were not extinct. This last test had the great recommendation that it could be carried out in those cases where it was forbidden to touch the body.

CAUSES OF SUDDEN DEATH.

That *rupture of Thoracic Aneurism* is one of the most frequent causes of sudden death unaccompanied by previous severe symptoms. Heart disease and cerebral hemorrhage are the two conditions that are usually supposed to be the cause of sudden death. But in the large majority of cases of sudden death from valvular disease of the heart, there have been characteristic symptoms of cardiac affection for some time preceding death. In *disease of myocardium* absence of symptoms is not frequent. Again in *cerebral hemorrhage* it is the exception for death to occur immediately. Patients live for some minutes or for some hours at least. In rupture of thoracic aneurism death is usually almost instantaneous. The *presence of foreign bodies in air passages and uræmic convulsions* are causes of sudden death also.

Cardiac affections and especially diseases of myocardium, rupture of thoracic aneurisms, cerebral hemorrhages, uræmic convulsions and foreign bodies

in air passages—and in the order named, are the most frequent causes of sudden death in adult life without marked previous symptoms. That *syphilis* forms a large and perhaps the largest factor in the production of aneurism of the aorta. This disease of the middle coat is perhaps often secondary to disease of the vasa-vasorum. An attack of flatulent dyspepsia, by impeding the action of a weak heart, will often cause sudden death. This is a frequent cause of death in old people, and in those who suffer from organic disease of the heart.

THE HOUR WHEN SICK MEN DIE.

An examination of the records of Charity Hospital, Blackwell's Island, New York, shows the highest death-rate to occur from 4 to 6 p.m. The hour of midnight which superstitious nurses regard with such trepidation has the lowest record but one out of the twenty-four.

INTOXICATION AMBLYOPIA.

There is an acute intoxication amblyopia resulting from the ingestion of certain medicines as Quinine, Salicylate of Sodium and Santonine, though the affection is more frequent in its chronic form. Among the results of chronic intoxication amblyopia are : (1) visual interferences resulting from handling toxic agents as Lead and Sulphide of Carbon ; (2) the results of abuse of Alcohol, Tobacco, Opium, Morphine and Hashish ; (3) the effects of snakebites. Other intoxications cause simply interference of accomodation, without preventing an amaurosis ; these are Aniline, Ether, Aconite, Calabarbean, Chloral, Atropine, Duboisine, and poison generated in the sausage. The prognosis of both alcohol and tobacco intoxication is not unfavourable.

SIGNIFICANCE OF CERTAIN SYMPTOMS IN DISEASES OF CHILDREN.

1. *If the cry of a child has a decidedly nasal sound, we should always look for retropharyngeal abscess, never omitting when we hear this peculiar nasal or guttural sound to touch the posterior wall*

of the pharynx with the finger. If abscess be present we feel the characteristic tense, fluctuating swelling.

2. *An expiration, which is greatly prolonged while inspiration is normal* and no other disturbance of breathing is present and no dyspnoea exists, is a sure sign of **chorea major**. The same may be said of very prolonged, very loud and forcible expiration, sounding like bellowing. This symptom of *bellowing expiration* has a typical character ; it may happen for many weeks daily at the same hour, recurring every 7 or 10 seconds, and it usually consists of a single prolonged and forced expiration or of a single expiratory roar. For months sometimes this symptom is *the only sign of chorea major*. It is usually cured by large doses of **Quinine** but it is very prone to return and become accompanied by other symptoms of chorea.

3. *The symptom of high thoracic, continually sighing inspiration indicates beginning of debility and paralysis of the heart.* This symptom makes its appearance before cyanosis or paleness of the face, weak thread-like pulse and coldness of the face and extremities develop themselves. Contrary to stenotic respiration, as observed in croup, pneumonia, cedema of glottis, this sighing inspiration is not characterized by forced contractions of diaphragm and is not of abnormal type, but is accompanied by a laborious rise and fall of the thorax and neck, and instead of a croupy noise by continuous sighing and moaning. No matter how the paralysis of the heart may be produced by the so-called heart poisons, as *Quinine, Salicylic Acid, Pilocarpine and Digitalis*, or otherwise, the symptom is pathognomonic of disease and wherever it is met with precautionary measures should be resorted to. In some cases of **acute fatty degeneration of the heart** the same symptom may be observed.

4. *Expiration decidedly diaphragmatic and accompanied by a whistling sound of high pitch, denotes bronchial asthma.* A similar symptom is also met with in **croup** but here it is accompanied by stenotic forcible inspiration. The same is observed in **capillary bronchitis**, but the noisy breathing through the nose, the rapid development of pulmonary emphysema, the sudden ap-

pearance and disappearance of intense dyspnoea and the fact of the latter and the whistling remitting during sleep, will prevent error.

5. *The existence of noticeable pauses between the end of each expiration and beginning of the next inspiration, indicates severe catarrh of larynx and proves the absence of croup.* In consequence of the enormous aspiration of air in croup, inspiration and expiration follow each other immediately, while in laryngeal catarrh a pause takes place between the 2 acts, as the physician can convince himself by bringing his ear near the mouth of the patient, or by carefully watching the diaphragm and the neck both of which are at rest during a pause.

6. *The so-called stridulous expiration, if present at birth and continuing day and night with rare interruptions of 10 or 15 minutes' duration and usually considered by anxious mothers and the uninitiated a dangerous and ominous symptom, has neither diagnostic nor any other importance, being perfectly innocent and generally ceasing of its own accord after the lapse of a few months.*

There are also **certain symptoms facilitating the early recognition of certain diseases of the brain in Children.**

1. *A remarkable drowsiness not accompanied by fever or any other symptom, and continuing for a long time (1 to 3 days) often precedes basilar meningitis ; vomiting, fixed pain in the head and even a slow, irregular pulse have not the same great significance as this sleepiness, as they may also happen in other maladies. Certainly stress must be laid upon the absence of fever, for many infectious diseases begin in children with a peculiar drowsiness, always associated with more or less high fever.*

2. *Prominent anterior fontanelle, if reaching decidedly above the level of surrounding parts, and if tense and of such resistance, as not to yield under pressure, proves the presence of an exudation within the cranium, or an increase of the contents of the latter and is met with in the persistent meningitis of the epidemic variety; in acute essential and chronic hydrocephalus (here tense but not necessarily very prominent) ; in great tumours ; in echinococci ; in acute oedema of the brain ; and in intrameningeal apoplexy. In*

simple congestion, in acute hyperæmia of the brain, the fontanelle is always soft and depressible. If it is very prominent, almost welgeshaped, and unyielding, without the least trace of penetration, the diagnosis of apoplexy of the new born, and a large intrameningeal extravasation of blood can be made with certainty.

3. *Remarkably slow motion and long fixation of the balls of the eye, with a vague look into space, accompanied by a peculiar slow opening and a closing of the eyelids is a sign of commencing basilar meningitis.*

Next, peculiarity of the cry in children aid us in diagnosis :—

1. *Violent, loud, penetrating, cries lasting 2 or 3 minutes, accompanied by great anxieties as expressed in the face, and setting in almost typically one or one and a half hours after the child has fallen asleep are a symptom of nightmare and easily cured by Quinine, which should be administered, one or two hours before retiring.*

2. *Periodical crying, lasting 5 to 10 minutes and happening several times during the day, but occasionally only at night, draws attention to spasm of the bladder, if colic and dyspepsia are not present, and is cured by an emulsion of Lycopodium, with or without Belladonna. (Vide pg. 469).*

3. *Frequent crying during defæcation, dread of the act and decided opposition of the child to going to stool, indicates the existence of fissure of the anus. Constipation should be avoided in such cases and Zinc ointment with Belladonna locally applied.*

4. *Violent, very painful and continuous crying, with restless throwing of the head from side to side on the pillow, and frequent grasping of the head by the hands, are generally indicative of the otalgia and otitis.*

5. *Crying lasting days and weeks, greatly increased on touching or moving the extremities, accompanied by continuous and enormous perspirations and fever, denotes the presence of acute general rachitis. while the same symptom, without the sweating, but with decided emaciation, proves the existence of hereditary Syphilis, and that the case is hopeless.*

1. If the children are remarkably weak, and little inclined to moving about after apparently innocent complaints of very short duration, **spinal infantile paralysis** may be expected.

2. The least disturbance of hearing after acute disease must be carefully inquired into, as it might be caused by **circumscribed meningitis at the base of the Fourth Ventricle**.

3. Depression of psychical activity in small children after grave infectious diseases, frequently forms the commencement of **acquired idiocy**. Here *Strychnine* has proved an invaluable remedy.

4. Ossification of the bones of the cranium postponed longer than normal denotes **commencing rachitis**.

5. An anxious stiff action in walking, sitting, rising &c., and pain expressed in the face of children who do not yet walk when they are lifted or laid down, are met with in **commencing spondylitis**.

6. When children with a very large closed cranium vomit for weeks everything they eat, we have the proof that **acute hydrocephalus** is being added to the former chronic disease. (Dr. Politzer).

OCULAR SYMPTOMS AS AIDS IN DIAGNOSIS.

1. **Epiphora** was at times the first symptom of *facial paralysis*; the orbicularis failed to keep the puncta in contact with the globe, allowing the tears to flow over the cheeks.

2. **Lagophthalmos** or inability to close completely the palpebral fissure, is a sign of *facial hemiplegia*, idiopathic or a symptom of cerebral disease.

3. In **acute inflammation of the lachrymal gland** there was frequently an attending fever, but the presence of the localised swelling and pain sufficed to make known the cause of the febricula. The presence of **dacryocystitis** indicated something more than a localized inflammation. It pointed to obstruction in the canal or sac and was most frequently caused by *neglected nasal catarrh*. Excluding this *exostosis and periostitis*, the result of *syphilis* was probably the cause of the trouble.

4. **Herpes Zoster ophthalmicus** was pathognomonic of changes, probably inflammatory, in the *5th Nerve and Gasserian Ganglion*. This condition was frequently mistaken for *Erysipelas*. The situation of vesicles on one side of the head over the distribution of the 5th Nerve and the persistent pain should prevent such a mistake.

5. The well-known symptom of *Bright's disease*, **morning œdema of the lower lids, blepharitis marginalis**, indicated a lowered condition of the general health, or an error of refraction.

6. **Ptosis** by itself might mean pressure from *syphilitic deposits* or *rheumatic swellings*.

7. **Blepharoptosis** or the falling of the upper eyelid, indicates *paralysis*, complete or incomplete, of the *3rd pair*.

8. **Strabismus** occurring suddenly and accompanied by **diplopia** is most frequently the result of some *cerebral affection*.

9. **Xantheasma** (a yellow lamina sometimes met with in the skin) of the eyelids occurs in *certain alterations of the liver*.

10. **Exophthalmos** was pathognomonic of *Grave's disease*. When this condition was limited to one eye it might be caused by tumours of the orbit, syphilitic periostitis, or even an orbital hemorrhage from whooping cough. *Exophthalmos* has been known to follow an injury of the head.

11. Where a patient complained of *headache, nausea, vomiting, or pains through the temple or eyes*, there should be an examination to know whether there was perfect harmony existing between the ocular muscles. When all the external muscles of the eyes were paralysed we had **ophthalmoplegia externa**—a disease not of the eyes, but of the central nervous system, affecting the nuclei of the 3rd, 4th and 6th nerves.

12. A recurring paralysis of the 3rd, 4th or 6th nerve, was frequently the first indication of *posterior spinal* or of *general sclerosis*.

13. Very often the first symptom of *basilar trouble* or *intracranial disturbance* was evidenced by the **paralysis** of one or more of the **ocular muscles**.

14. **Phlyctenular conjunctivitis** was almost always indicative of *lowered vitality, of eye strain, or bad hygiene*. **Chronic conjunctivitis** had about the same significance, but was also associated with *nasal or pharyngeal catarrh*.

15. **Subconjunctival ecchymoses** are frequent in whooping cough and may sometimes, at the beginning of the complaint, clear up a difficult diagnosis.

16. **Redness of the conjunctiva, watering of the eyes** &c. indicate in the child the outbreak of some *eruptive fever*, particularly *measles*. The **prognosis** is *favourable* if the *tears come* when the child cries, but *fatal* if the secretion of the tears is *arrested*.

17. **Interstitial Keratitis** always indicated *constitutional trouble*. The great majority of these cases occurred in persons under 20—usually from 5 to 10—and were symptomatic of *congenital syphilis*.

18. The presence of **Keratitis with hypopyon** indicated infection from some quarter, possibly from *nasal catarrh, dacryocystitis or carious teeth*.

19. In cases where the **cornea sloughed away** *without pain or distress in old people*, we might know their vital powers were much *depressed* and their *blood vessels* probably *atheromatous*.

20. If we found the **cornea cloudy or ulcerated**, the patient complaining of no pain or photophobia, we had a keratitis due to a *lesion of the 5th nerve*.

21. **Spots on the cornea** are often the indication of a *strumous constitution*.

22. **Scleritis and Episcleritis** rarely occurred except in *rheumatism or the rheumatic diathesis*.

23. **Contraction of the pupil** is one of the early symptom of *Tabes Dorsalis*. It is met with also at the beginning of *meningitis*, in *opium poisoning*, and in the first stage of *chloral poisoning*. In the first stage of *pachymeningitis hemorrhagica* the *pupils* were as a rule *contracted and most markedly so on the side of the hemorrhage*. The **Robinson pupil** was almost always associated with *posterior spinal paralysis*. When the *cervical sympathetic* was irritated by pressure of some growth, **moderate myosis** might call attention to the lesion; the *accommodation* was not affected.

24. **Dilatation of the pupil or mydriasis** indicates excessive fatigue, the existence of intestinal worms, meningitis in the second stage or a true amaurosis. The dilatation is most frequently connected with atrophy of the optic nerve. It is seen also during an attack of epilepsy, on coming out of chloroform, after belladonna poisoning &c.

25. **Unequal pupils** (both unequally dilated, or one pupil may be dilated and sluggish while the other is permanently contracted, &c.) was one of the first symptoms of *general progressive paralysis*.

26. **Deformation of the pupil**, particularly after the injection of atropine, indicates *an old iritis*, in nine cases out of ten, of *syphilitic origin*, and constitutes soft cataract.

27. At times on examining patients who complained of failure of vision, a **central scotoma for red** was found ; this was almost pathognomonic of *tobacco poisoning*.

28. **Night blindness** occurred in commencing *atrophy of the optic nerve* and *retinitis*. **Word blindness** accompanied as a rule lesion of the cortex cerebri. Acquired partial or complete **colour blindness** was indicative of *nerve atrophy*. When monocular **hemioopia** existed, the condition probably was one of intraocular lesion ; if **binocular intracranial lesion** was certainly present, the lesion being along the optic tract or in the occipital lobe of the same side as the loss of vision. *In acute Bright's disease patients suddenly became blind* without a lesion of the fundus. The difficulty was evidently central and due in all probability to an œdema of the centres for vision.

29. **Acute glaucoma** was sometimes mistaken for a bilious attack or hemicrania, and **chronic glaucoma** for incipient cataract. The increased tension of the eyeball, the dilated and immobile pupil, the limited range of accommodation and the contracted fields would soon settle the diagnosis without the aid of the ophthalmoscope, were those signs looked for.

30. **Cataract** in subjects under say 40 or 50, is frequently of diabetic origin, and constitutes *soft cataract*.

31. Finally the **ophthalmoscope** enables us to recognize the retinitis of albuminuria, in Bright's disease, of simple polyuria, and sometimes in the case of women during pregnancy. Retinal hemorrhages, œdema of the retinal, and embolism of its central artery are sometimes met with in the organic affection of the heart. Optic Neuritis and Perineuritis and atrophy of the disc are symptoms of syphilis or of tumours in the neighbourhood of the Cerebellum or the Corpora Quadrigemina.

Constitutional states also cause or complicate abnormal ocular conditions :

As the result of *Diabetes* we find cataract, iritis, retinitis, optic neuritis, retinal hemorrhage. *Gout* causes conjunctivitis, iritis, retinitis hemorrhagic infarctions. *Diarrhœa and Dysentery* induce cataract. *Hepatic Congestion and Icterus* bring about various visual aberrations, retinal hyperæmia and hemorrhage. *During dentition* occur phlyctenular states of the conjunctiva and cornea, lenticular degenerations while later on from *caries of the teeth* arise different reflex disturbances as mydriasis and myosis, amblyopia. The pupil is also affected and retinal congestion may arise from the presence of *intestinal worms*.

PODODYNIA OR PAIN IN THE HEEL OR SOLE.

It occurs under the following conditions :—

(1.) In cases of vesical calculus. (2.) Cystoprostatitis or inflammation of the neck of the bladder. Cystalgia or neuralgia of the neck of the bladder. (3.) In gout. (4.) Renal calculus. (5.) Gonorrhœa. (6.) Locomotor ataxy. (7.) Syphilis. (8.) In certain sedentary classes or artizans particularly the tailors.

CUTANEOUS AND DEEP REFLEXES.

1. Absence of the plantar or cremasteric reflex is usually pathological, depending upon a direct lesion of the reflex arc or some cerebral disturbance.

2. Absence of other cutaneous reflexes is not necessarily pathological.

3. Absence of the patellar reflex may be due to cerebral disturbance, especially in alcoholic subjects.
4. Ankle and patellar clonus are pathological.
5. The deep reflexes of the upper extremities are of frequent occurrence and have no special pathological significance.
6. The costal reflex is found in the majority of cases without general exaggeration of the reflexes and with no signs of phthisis.
7. When the reflexes differ on the two sides of the body, though it usually signifies some unilateral disease of the nervous system, it is not always pathological.

On the whole the above propositions accord with the observations of Buzzard, Govers and others who have worked most at this important question. That the patellar reflex may be absent from cerebral disturbance is most probably correct ; nevertheless it would be difficult in many cases to exclude the possibility of a direct damage to the reflex arc itself. The frequency with which the deep reflexes of upper limb are present in cases of diseases of brain and spinal cord has probably been overlooked as the result of imperfect examination. (Dr. P. C. Knapp).

DIAGNOSTIC IMPORTANCE OF CERTAIN SMELLS IN SICK ROOM.

1. Bad prognosis was given when “a cadaverous smell” was perceived from the patients suffering from the *last stages of Pneumonia, Phthisis, Typhoid, Fever &c.*
2. Mr. Crompton of Birmingham has noticed a peculiar **earthy smell** from the body a week or a fortnight before death, which he says has never deceived him—an appropriate illustration of the saying “earth to earth.”
3. Dr. Begbie distinguished *Typhus and Typhoid Fever* by the **sanguineous** (others call it **mousey**) smell of the former.
4. Professor Parkes has noticed a peculiar odour in the skin of *cholera patients*.

5. **A pungent smell** in the chamber of a lying-in-woman shows that the *lacteal secretion is well established*, while an **ammoniacal smell** has been said to indicate the *approach of puerperal fever*.

6. Many women emit a peculiar odour while *menstruating* which resembles **a mixture of blood and chloroform** and this is believed to arise not so much from the discharge as from the more pungent character of the sweat secreted in the axilla.

7. *Persons of costive habit* have **a faecal smell** : and this is often also noticed in *hypochondriacs and lunatics*.

8. In *uræmia*, whether owing to kidney disease or to severe retention of urine, **a urinous odour** is emitted by the body ; and *the presence of pus* in some part of the body has been recognized by a peculiar **warm milky smell** of the patient.

Are odours of any medicinal value ?

The vapour of *Hellebore* has been used for *purgings* ; that of *Crocus* and *Hops* for procuring *sleep* and the emanations of *burnt feathers* and *wool* for combating *hysterical fits* ; but no doubt, the imagination was largely influential in the production of any such effects.

Chloroform, *Ether*, *Ammonia* &c. which have a definite physiological action, can hardly be looked upon as odours. On the other hand, it is certain that strong smells or scents may be hurtful, more especially the sweet ones such as those of *Lilies*, *Violets*, *Narcissus*, *Nerium*, *Oleander*, and *Lobelia*. ; and these again, chiefly in nervous and hysterical women, in whom headache, dizziness, fainting and convulsive fits, have thereby been caused.

LOW TEMPERATURES IN DISEASE.

These are met with under 3 conditions :—

1. *Drunkenness* with exposure, of which there is a well authenticated case of recovery after a temperature of 24° C. (76° F.).

2. In *mania*, particularly of *old people*, in *melancholia*, and the *progressive paresis*, very low temperatures have been met with, one as low as 23.75° C. (74.75° F.).

3. In *injuries and disease of the cervical portion of the spinal cord* a reduction has occasionally been noted though more commonly an elevation. The lowest rectal temperature on record is 23° C. (73. 40° F.) in a case of limited disease in the medulla and lived 26 hours after, the temperature not rising above 28° C. (82°. 40° F.).

THE TONGUE AS A DIAGNOSTIC POINT IN DISEASE, WITH INDICATIONS FOR TREATMENT.

(1.) **A heavy-coated tongue**, especially at its base, with a deep yellow coat—the liver is the cause; still tobacco chewers may have that and the liver be sound. In several instances jaundice with a white coated tongue has been noticed.

(2.) **The pinched and shrunken tongue** shows *atony of the digestive tract* as found in dyspeptic troubles. **The elongated tongue** shows irritated condition with *determination of blood to the stomach and intestines*. It will also exist in *excitation of the nervous system*. It is especially found in children. In these conditions *irritant cathartics do harm*.

(3.) **The dry tongue** has several important considerations as *implying, in febrile conditions, much danger* which demands close attention. Food must be taken in such cases in fluid form bearing in mind that it must always be above 100°. of a nutritious character, which may easily be assimilated. Dryness may be found in *vascular excitement more particularly associated with excitation of ganglionic and nervous system*. Hence the indications for *sedatives* for the vascular excitement of the nervous system, together with other proper medication. When the tongue *changes from the dryness to a brown or black fur, with sordes about the teeth*, it means that the blood is in a septic condition—and not as commonly supposed, due to a typhoid condition. Hence, a marked improvement follows from the *best antiseptics with stimulants and tonics*.

(4.) Pallid mucous membranes with white coat of the tongue demand alkalies.

(5.) Deep red mucous membranes and brown coat of the tongue call for acids.

(6.) A dirty white pasty coat requires the alkaline sulphites.

TO DETECT ALCOHOLIC AND SIMULATED STATES OF COMA.

By simply pressing on the supraorbital notches with a steadily increasing force, one may, with a certainty of success, detect a malingerer, bring an unconscious alcoholic to senses and thus differentiate on the spot between alcoholic and other comas, cause cessation of hysterical convulsions and in many instances quiet violent alcoholic delirium. Apply the test as follows :—

When the patient is in recumbent position, the physician, standing at the head of the cot, or kneeling when the patient is on the ground, fixes the tips of the thumb over the supraorbital notches, never minding the occasional yell or struggling, press steadily, gradually increasing force and in half or a minute result is accomplished.

DIABETIC COMA.

1. Diabetic coma is especially apt to occur in acute cases in young persons. 2. Diabetic patients and their friends should be warned of the danger of constipation, muscular exertion, nervous excitement, and cold, as probably predisposing causes of death by coma. 3. The discovery of the " Ferric Chloride" reaction (a deep vinous red coloration with the urine) should be taken as a warning to expect the onset of coma. 4. Deep respiration, rapid pulse, and abdominal pain, are the earliest premonitory symptoms of diabetic coma. 5. Cyanosis may be absent though dyspepsia is present and may appear only just before death. 6. Diabetic coma with all its classical symptoms occurs independently of any excess of fat in the blood and the pathological significance of lipæmia when present is as yet undetermined. 7. The toxæmic theory viz. that of poisoning by acetone or some nearly allied substance affords best explanation of this remarkable group of symptoms.

EXANTHEMATA.

Variola : *incubation*, 12 days. *Eruption*, third day of fever ; appears first on face, then on neck and trunk ; feels like grains of sand beneath the skin, and does not disappear on pressure or stretching the skin ; it is distinctly papular, fever remitting as soon as out. *Scabs*

form on ninth day and fall off 5 or 6 days afterward. *Temperature* 104° to 106°. *Danger*, septicæmia, pyæmia, and secondary (suppurative) fever.

Scarlatina : *incubation*, 2 to 6 days. *Efflorescence*, on second day of fever ; shows first on neck and chest ; brightest on parts covered ; declines after 3 days ; disappears on pressure or extension of the skin. *Temperature*, 104° to 106°. *Danger*, nephritis or pulmonary œdema. “Strawberry” tongue, and throat complications.

Rubeola : *incubation*, 10 to 14 days. *Eruption*, third or fourth day of fever ; showing first on forehead ; is patchy and brightest on parts exposed ; fever does *not* abate on its appearance ; declines in three or four days, and disappears on pressure or extension of the skin. *Temperature*, 101° to 102°. *Danger*, pneumonia and capillary bronchitis ; Catarrhal (coryza) complications.

Varicella : *incubation*, 3 to 4 days. *Eruption*, second or third day, resembling water-blisters ; first appears on breast and shoulders, and does not implicate the lower extremities ; disappears on pressure, and totally in 5 days. *Danger*, none, and rarely any constitutional disturbance.

THE DIAGNOSTIC VALUE OF FLUORESCĒIN DYE IN DISEASES OF THE EYE.

Drs. Fromm and Grovenonn, Assistants in the eye clinic at Breslaw, publish an account of some experiments with fluoresceïn. They experimented with the potash salt of fluoresceïn and the soda of fluoresceïn, preferably with the former in a 2 per cent. solution. One drop of this liquid is dropped on the conjunctiva ; it is well afterwards to wash the conjunctiva with water or any indifferent liquid. The normal cornea is never coloured, but if it is anywhere denuded of epithelium such spots and the whole region near them become stained of a diffused green colour, which generally disappears again in from two to three hours. The corneal substance is deeply impregnated with the colour, but the epithelium is only slightly tinged on each side of the defect. Practised observers have confessed that by no other means were they able to detect and map out a corneal lesion so well as with

fluorescein. This chemical is most valuable for the diagnosis of superficial injuries which are often difficult to recognise, as if these do not take the stain a fresh injury may certainly be excluded. Particles of rust which often remain after the removal of foreign bodies, and are difficult to recognise, are plainly distinguished from their green base. Every ulcer is of course coloured, and a green colouration is seen over every abscess and infiltration. Opaque spots, however, do not stain, and so are distinguished from fresh lesions. In the conjunctiva the localities of any loss of substance are coloured yellow, and injuries become visible which otherwise could not have been discovered. In conjunctivitis only phlyctenulæ become coloured, and by this means they are distinguished from other nodular prominence. The deeper parts of the eye are not affected.

DIAGNOSIS OF GONORRHŒA IN THE FEMALE.

A most important fact by which **specific** can be distinguished from **simple vaginal discharge** is that in the *specific forms*, the *discharge is always acid, while in the simple form it is always alkaline*. It is very easy therefore to decide by means of litmus paper whether a woman is or is not suffering from gonorrhœal discharge. This sign may also prove of value in cases of rape in deciding whether the person who committed the crime was then suffering from gonorrhœa, as any vaginal discharge proceeding from this cause would be acid.

DIFFERENTIAL DIAGNOSIS BETWEEN HYSTERIA AND EPILEPSY.

1. *The aura of Hysteria* is the *globus hystericus*, a feeling as if a ball pressing on the umbilical and epigastric regions and rising generally to the throat where it causes a feeling of constriction; this is no imaginary feeling but is really a spasmodic constriction of the œsophagus passing gradually upwards to the pharynx; while *aura of Epilepsy* is described in various ways e. g. like *a breath of wind or formation*; however short the hysteric aura may be, yet it is of *longer duration than the aura of epilepsy*, which is of lightning rapidity.

2. *The hysteric attack is more noisy ; the movements more extensive, not confined chiefly to half the body as is frequently the case in epilepsy and the attack usually ends in a fit of weeping or laughing. An epileptic on the other hand after the cry with which the attack usually begins, is absolutely silent and rarely moves from the spot where he drops down.*

3. *Pupils in hysteria are sensitive to light while in epilepsy these are absolutely insensitive and that the hysteric attack lasts longer than the epileptic. In epileptic patients the pupils are abnormally narrow and exceedingly slow in reacting to light. In cases in which this peculiarity has been observed it has disappeared under bromide of potassium. This condition has been explained by the persistence of the temporary disturbance of the circulation in the corpora quadrigemina which causes the insensitiveness of the iris to light during an attack and should the symptom turn out to be constant, it will give a valuable means of diagnosing the nature of the disease in an interval before seeing the attack.*

4. *In hysteria we may be further aided by the absence of tongue biting or injury from falling, and by the presence in the patient of hemianalgesia and amblyopia. In the hysterical fit opisthotonos is always very marked and characteristic.*

DIAGNOSIS OF JAUNDICE.

1. Should the jaundice be recent and no perceptible disease be found in the liver or elsewhere, the case is probably one of **simple jaundice**. 2. The jaundice being recent, but acute diseases of other parts present, such as pneumonia, pyæmia, typhoid and relapsing fevers and the like ; delirium tremens, poisoning by chloroform, chloral hydrate and other drugs and snake-bites, the cause of the jaundice is not known with any certainty ; but it is probably the same as in simple jaundice. 3. If the jaundice be accompanied or preceded by attacks of severe shooting pains in the right hypochondrium or if the jaundice be intermittent one attack quickly succeeding the other, the cause is probably **gallstones**. 4. An intense persistent jaundice, if approaching 12 months in duration, is due, probably, not to cancer, but to **gallstones, hydatids or stricture of the duct**. 5.

A slight persistent jaundice is probably due to changes in the texture of the liver as **cirrhosis, nutmeg liver &c.** 6. Jaundice with great enlargement of liver is probably due to **cancer.** 7. Jaundice complicated with ascites is probably due to **cirrhosis.** 8. Delirium setting in during an acute jaundice suggests **icterus gravis.**

MALARIA IN CHILDREN.

Dr. J. P. Kingsley of Missonri thus sums up the peculiarities of malaria in children : the absence of the chill and sweating stage ; the slight periodic fever which may be detected by the thermometer only ; the frequent or periodic pains in the head or epigastric region ; indigestion, accompanied with nausea, vomiting, or diarrhœa ; the frequent accompaniment of tonsillitis, pharyngitis or bronchitis ; the periodicity of coughing spells which occur most frequently at night ; the necessity of examining the spleen by palpation and percussion ; and of giving Quinine to confirm diagnosis in doubtful cases.

INSTANTANEOUS DIAGNOSIS IN NERVOUS DISEASES.

Professor W. Erb groups the characteristic symptoms of many nervous diseases which allow of an immediate diagnosis. **Tabes dorsalis** is, as a rule, easy to diagnose ; although, even at the present time, it is mistaken for myelitis, spastic paralysis, neuritis, etc. The diagnosis of this affection can at once be made, when the patient enters the room with an ataxic gait, when he complains of lancinating pains, double vision, weakness, tired feeling and paresthesiæ of the legs, vesical and genital weakness. An examination of the eyes will show contraction of the pupils, and a failure of the latter to respond to light. The patient will totter with closed eyes, and the knee-jerk is abolished. *Vide* pg. 1314. **Parkinson's disease, or paralysis agitans,** is also capable of immediate diagnosis. The marked inclination of the body forwards, the attitude of the fingers, as if employed in holding the pen, the immobility of facial expression, the peculiar gait, as if the patient were about to tumble forward, all give, when combined with the peculiar tremor, a characteristic picture. The tremor is not always essential in making the diagnosis, for there are cases in which this

symptom is permanently absent. Here is a child, a young man or woman ; you hear that they are troubled with paroxysms of tonic muscular spasm in the hands or legs. If, now, with the end of the finger, or a lead pencil, a vertical stroke is made running from the temporal region to the lower jaw, and a rapid contraction of the facial group of muscles occurs, the diagnosis of **tetany** can with certainty be made. The diagnosis is confirmed when, after the nerve trunks of the arm are struck, violent contractions of the muscles ensue ; or when, by application of the galvanic current to the nerve trunk, *cathodal closure tetanus* and *anodal closure tetanus* are rapidly developed with even weak currents, the muscles showing no increased irritability. Again, you hear, from a young person, complaints with reference to a weakness and stiffness of intended movements. You ask the patient to grasp your hand, and he will be unable, when told, to immediately loosen his grasp. Now strike the exposed deltoid muscle, or the biceps, and an energetic contraction, lasting many seconds, occurs. This is **Thomson's disease, or myotomia congenita**. If the symptomatic picture is to be completed, use the faradic and galvanic currents. The nerves show normal irritability ; the muscles, on the contrary, are irritable and qualitatively changed (myotomic reaction). Besides the tendency of the muscles to tonic spasm during attempts at voluntary movement, and the myotomic reaction, absolutely nothing else abnormal is found, other than the disproportion existing between the well-developed muscles and the weakness of the patient. **Basedow's disease (exophthalmic goitre)** : the well-known symptoms, exophthalmos, pulsating struma, and cardiac palpitations, are so characteristic that the affection is at once recognised. Cases exist, however, where the exophthalmos is absent, or the thyroid gland not enlarged. In such cases the cardiac palpitations, and acceleration of the pulse (120 to 160 beats per minute) without manifest cardiac change, auscultation of the pulsating struma, the feeling of weakness and tremor, the tendency to sweating, sleeplessness, and diminished electrical conduction resistance of the skin, are symptoms of value in undeveloped forms of Basedow's disease. If a child is brought to you with weakness of the legs, clumsiness in walking, and difficulty in rising from the recumbent or sitting position, you ask to have the clothes removed and proceed to examine the patient more carefully.

A waddling movement is noticeable, together with lordosis in the lumbar region. The thighs are characteristically attenuated when contrasted with the muscles of the calf, which are increased in size. When the child is raised from the arms, the shoulders ascend to the ears and the head sinks between the shoulders, so that difficulty is experienced in lifting it in this manner, so readily accomplished in healthy children. The failure is attributed to the inability to fix the shoulders below. This is **distrophia muscularis progressiva**. The individual forms of this disease can at once be recognised, the pseudohypertrophic form by the increase in size of the muscles, which is not proportionate to their motor power; the juvenile by the more severe involvement of the upper half of the body, the pronounced atrophy and relatively late development of the affection; the infantile by the early invasion of the face. **Infantile paralysis (poliomyelitis anterior acuta)**. In these cases the child presents an atrophic paralysis of one or more extremities, whereas individual muscles, or muscle groups, are exempt. The sphincters are intact, and the affection has occurred suddenly. Sensation is not involved, and the tendon reflexes in the affected muscle regions are absent. The examination is completed when the reaction of degeneration is determined. **Multiple sclerosis**: intentional tremor of the hand, shaking of the entire body when an attempt is made to rise or walk, scanning speech, nystagmus, spastic paresis of the legs, and history of headache, vertigo, vesical weakness, etc., constitute the characteristic symptoms of this disease. **Progressive bulbar paralysis**: Difficulty in articulation, nasal voice, thin lips and with difficulty moved, the inability to protrude an atrophic tongue in which fibrillary contractions are observed, difficulty in swallowing, etc. **Amyotrophic lateral sclerosis**: This affection shows a combination of atrophic paresis with increased tendon reflexes in the upper, and spastic paresis in the lower extremities.

An early ataxic sign.

Weiss, of Vienna, says that an early symptom of **locomotor ataxia** is an inability on the part of the patient to walk backward, while as yet, and in other ways, he may be

able to walk with firmness and rapidity. Perron, of Bordeaux, has also recently suggested an early diagnostic sign, which is simply a modification of the Romberg test—namely, causing the suspected ataxic patient to stand upon one leg; instead of two, with the eyes closed. If the patient shows a tendency to fall, it may be inferred that the spinal trouble has begun which will lead on to locomotor ataxia, even if the Romberg test fails, as it not infrequently does in cases that are not well advanced.

DIAGNOSIS BETWEEN ULCERS AND TUMOURS OF THE STOMACH.

Experienced physicians sometimes mistake one affection for the other, neither the tumefaction of the axillary glands of Trosier, nor the leucocytes of Haven, nor observations upon the amount of Hydrochloric Acid in the contents of the stomach, have proved of much value in diagnosis. To help in this difficulty, Rommelacre has indicated a means of distinction easy to apply. He tells us that in malignant tumours, whatever may be their seat or their structure the quantity of urea found in the urine sinks rapidly, till it stands below 12 grammes in the 24 hours. In certain states of disease of the stomach, and especially in carcinoma, there exists a disturbance of nutrition, through which the absorption of the nitrogenous portion of the food is deranged, so that the quantity of azotic eliminated is not proportioned to the quantity introduced. This may serve as a criterion in the differential diagnosis between ulcers and cancer of the stomach; on the contrary, we find the quantity of urea to be about the same as in good health, and not to vary from day to day, whilst in cancer there is a notable diminution, which is not so much owing to the influence of the malignant growth upon nutrition in general, as to special alterations in the digestive organs and the mechanical and chemical disorders which accompany them. *Vide* pg. 633-5.

TEMPERATURE, PULSE, RESPIRATION RATIO IN HEALTH AND DISEASE.

The standard adopted is the respiration ratio of 16, pulse of 64, for a temperature of 98. 4° with an increase of 10 pulse beats

and $2\frac{1}{2}$ respirations for every degree of temperature above normal. For both sexes above the age of 40 and for stolid, apathetic, robust adult males of full average height, the scale is as nearly correct as possible. In cases of pyrexia without definite lesion or disablement of heart or lungs the pulse respiration ratio has increased uniformly with the temperature, the three sets of lines on the chart rising and falling together with wonderful accuracy. When the temperature however falls below 98.4° the pulse and respiration do not follow it but tend to rise. Beyond the temperature of 104° or 105° F. the pulse and respiration is apt to prove incorrect. This is true in enteric fever at the height of disease. In the middle of illness of enteric fever, the degree to which pulse rises above and out of proportion to fever is one of the best indications of seriousness of case and indicates cardiac failure. A quickened respiratory ratio during earlier part of enteric fever indicates lung mischief.

THE PROGNOSTIC VALUE OF THE NUMBER OF RESPIRATIONS IN PULMONARY AFFECTIONS.

Gerhardt has noted exactly the number of respirations in 140 cases of pneumonia. He found that the number of respirations was markedly less in those cases which recover than in those which die, but that the number of respirations was of less importance in forming prognosis than the daily variation in the respiratory. From this point of view Gerhardt divides his observations into four different categories :

1. In the first group the number of respiratory movements never becomes very high, 40 perhaps representing the average. Laennec had already observed that the number of respirations might remain nearly normal even with marked alteration of temperature, pleuritic pain, and marked diminution of the respiratory field. In all these cases the temperature was never very elevated and the pleura was not affected ; but, nevertheless, when it is considered that out of 69 cases, which comprised that group, there were 9 deaths, it is seen that the cases were of a severe type of pneumonia.

2. In the second group, which comprises 15 cases, the number of respirations remained elevated throughout almost the entire duration of the disease. This series comprised 9 cases and 6 deaths, and it was in this group that the respiratory movements were most elevated, amounting to 60, and on the first day to 90 respirations a minute. The fever also was very high, although cases of pneumonia with great respiratory increase did not necessarily imply a corresponding increase in the pulse.

The third and fourth groups comprise all the cases which during the course of pneumonia indicate a temporary increase in the respiration above 40 in a minute. These cases were 56 in number, and Gerhardt has divided them into two classes, according as the transient acceleration of respiration was observed at the end of the disease.

3. The third group, which comprise 22 cases, with acceleration at the commencement of the disease, includes 3 fatal cases. It thus seems that acceleration of respiration at the onset of the disease does not appear to seriously affect the prognosis, especially when it is recognized that the respiratory movement of 80 to 90 a minute is not incompatible with recovery. Nevertheless the pneumonia noted appeared to retard defervescence ; which ordinarily occurred on the 8th or 9th day.

4. In the fourth series the acceleration, which came on towards the end of the disease, persisted up to death, which occurred in 10 cases out of 22.

In 12 cases the acceleration commenced before the crisis, during it, or after it. When occurring after the crisis, it might persist for a few hours up to 2 or 3 days. In regard to these last 2 groups, it may be said that the influence of fever is without effect on the respiratory rate, and that the summit of the respiratory curve is entirely independent of the elevation of temperature. It is however quite different as regards the extension of the lesion. The extent in the inflammation then determines an augmentation in the respiration-frequency for many days before death, while the pulse at the same rate becomes more frequent. The respiratory frequency may also when fatal depend upon other circumstances, especially those which

depend upon circulatory activity, such as occurs when pulmonary oedema takes place or the power of the heart becomes weakened. It is also possible that certain mechanical or chemical conditions may occur which might influence the number of respirations, but these cannot be accurately described.

ACIDS AND ALKALIES.

The rules to be observed in prescribing the acids and alkalies according to the action desired are as follows :—

Acids check acid, but increase alkaline secretions and dilute alkalies stimulate acid secretions. Acids as a rule should be given before meals ; such treatment in acid dyspepsia will give immediate relief. In alkaline pyrosis it is best to give them after meals. Alkalies given before meals improve digestion when at fault from a deficiency of gastric juice, as by above rule they stimulate acid secretions. Alkalies given after meals may relieve acidity temporarily but will not cure. *Vide* also the following.

WHAT IS THE PROPER TIME TO TAKE MEDICINES ?

1. The medicines which act as local irritants, such as the salts of Copper, Iron, Zinc and Arsenic, in large doses are to be taken after a meal, when the stomach is full, while small doses of medicines acting on the gastric terminations of the vagus ought to be taken before a meal. In some instances we have to consider chemical changes. 2. Oxide and Nitrate of Silver, if intended to act locally on the gastric mucous membrane, must likewise be exhibited when the stomach is empty. 3. It is not generally known or at least observed, that Iodine and its salts are to be administered on an empty stomach as the presence of starch and acids, modifying or decomposing the preparations of Iodine, would reduce or prevent their effect. 4. The acids intended to affect the gastric juices are to be taken before a meal in order to provoke an ample secretion of the gastric glands. If alkalies are to modify the gastric juices, they must be given during the meal ; but if their absorption into the blood is desired, they ought to be ingested on

an empty stomach, in order not to hinder the process of chymification by weakening the acids. 5. Metallic salts especially Corrosive Sublimate, likewise Tannic Acid, Alcohol and other drugs, modify the digestive power of pepsin and are hence to be exhibited solely before meals. 6. Iron, Phosphorus, Cod Liver Oil and similar medicines may be taken during meal time.

THE NORMAL DIET.

It is not an uncommon thing for an average sized man on very moderate work to eat 25 to 27 ozs. of chemically dry food a day. Women eat much less than men, after making allowances for differences in weight and work. Where a man eats 19 ozs., a woman of same weight and active habits eats only 14 or 15 ozs. On a diet from which all meat is excluded, it is found that 12 to 13 ozs. per diem will comfortably feed a hard working man. A moderate amount of stimulants appears to increase the average; moderately free drinking diminishes it. A diet consisting of 1 part of nitrogenous to 7 or 8 non-nitrogenous is a good combination; it is greatly exceeded on the nitrogenous side by the majority of men and women, especially the former. A diet of 12 to 14 ozs. of chemically dry food, digestible, with the ingredients in proper proportion, is sufficient to keep in good health an average sized man on moderate work. The majority of men in England eat literally twice as much as this.

CAUSE OF ENDOCARDITIS IN RHEUMATISM.

Why should the heart have this peculiar liability to develop severe lesions during an attack of rheumatism? When rheumatism attacks other parts and structures of the body it does not produce such injuries, or anything like as severe ones. The explanation of this difference could be derived from a consideration of the unresting nature of the heart, and the necessarily intensified action of the rheumatic poison on the wall of a serous cavity subjected to such constant mechanical strain. If a man having rheumatism in his knee should kick a hundred and forty times in a minute, he would probably cause the development of structural changes which would

remain for life ; consequently the importance of compelling heart to beat slowly. In children the heart beat is much more rapid than in adults ; and correspondingly, heart complications in rheumatism are more likely to be developed. Therefore full doses of Aconite, and not of Digitalis, are recommended. Aconite allays irritability of the heart.

FURUNCULOSIS AND POLYURIA.

Spillmann and Parisot state that furunculosis, even when accompanied by abundant discharge of urine, is far from having the diagnostic and prognostic importance usually attributed to it, although they recognize the fact that sometimes these furuncular outbreaks lead to the discovery of an unsuspected diabetes. Their observation tends to show that furunculosis is not uncommon in any form of increased urination, whether saccharine or of the type diabetes insipidus. The writers regard the loss of water as the essential factor in the production of furuncles in these cases, the vitality of the skin is compromised by this dehydration and becomes less capable of offering resistance to microbic invasion.

Their conclusions may be thus stated : 1. Furunculosis associated with polyuria does not always constitute a certain indication of glycosuric or azotinic diabetes. 2. Furunculosis may accompany simple or symptomatic polyuria. 3. Furunculosis is developed in the course of diabetes because of the dehydration of the tissues, and more especially because of the malnutrition of the skin.

DANGER OF FREE DRINKING IN CARDIAC (HEART) WEAKNESS.

Dr. Barr calls attention to the necessity for limiting the imbibition of fluids in cardiac weakness. When the heart is feeble, or there is a mechanical obstacle to the circulation, the fluid accumulates in the vessels, dilutes the blood, hydrates the tissues, lessens osmosis and increases the work of the heart by augmenting the mass of the blood. Every drop of liquid taken into the stomach must pass through the right heart, except the little that passes by the bowels, and all but that which is exhaled by the lungs must pass the left heart before it can be excreted.

PAROXYSMAL HURRY OF THE HEART.

It is the recurrent palpitation of extreme rapidity in persons otherwise apparently healthy. The patient is usually between 30 and 40, is suddenly seized with an attack in which the heart acts with very great rapidity, beating often 200 to 300 times in a minute. There may be no symptoms or pain, and palpitation may be present, no cause is assignable; worry and overwork may, however, produce it. The paroxysms vary from a few minutes to several hours, the tendency is for attacks to increase in frequency and for the interval to diminish; the intervals may be months or years. There is no definite sign of cardiac disease but during the paroxysms the apex may be displaced, cardiac dulness increased and murmurs may be audible. Only one post-mortem has been made in which case the heart was found to be hypertrophied and dilated. Many cases recover, and may go on for years without a return of the attacks. (Dr. Bristowe).

TREATMENT OF FOREIGN BODIES IN THE STOMACH.

It consists in giving large quantities of potatoes to patients to which the diet should be restricted. Potatoes are composed of nearly 20 per cent of carbohydrates, 80 per cent of solids being starch and cellulose. On account of large quantities of carbohydrates they resist the action of the digestive juices, cellulose and carbohydrates increasing greatly in volume from imbibition of water lead to accumulation of immense amount of indigestible residue and consequently intestinal residue is throughout filled with masses of non-absorbable matter. Folds of intestines become obliterated and fixation of foreign body in the intestinal tube is avoided. From 5 to 9 days or even longer are required for the evacuation of foreign body.

PERSONAL PRECAUTIONS THAT MAY BE ADOPTED BY MEDICAL MEN WHILST ATTENDING CASES OF INFECTIOUS DISEASE.

1. Always have the window open before entering the patient's room or ward. 2. Never stand between the patient and the fire but

always between him and the open window. 3. If possible change your coat before entering the room. 4. Do not go in for any unnecessary auscultation or other physical examination. 5. Stay as short a time as possible in the room. 6. Never while in the room swallow any saliva. 7. After leaving the sick room wash the hands with water containing an antiseptic. 8. Rinse the mouth with diluted *toilet Sanitas* (*Vide* pg. 647. c.) or *Condy's fluid*, also gargle the throat with it and bathe the eyes, mouth and nostrils. 9. Expectorate and blow the nose immediately on leaving the sick room. 10. Keep up the general health by good food, exercise and temperature.

In addition to all these there is another. This is to hold a *McKenzie's Inhaler* over the nose and mouth. Soak the sponge in a strong solution of Carbolic Acid before entering the sick room, so that all the air breathed must come through this sponge and the expired air is emitted by a valve action, at another place.

LEECHES AS WEATHER-PROPHETS.

Into a flask of the capacity of $1\frac{1}{2}$ litres (about $45\frac{1}{4}$ fl. ozs.) pour 1 litre (about 34 fl. ozs.) of water, introduce a leech, cover the bottle with coarse linen, and place it in the window. If the leech remains motionless and coiled up at the bottom, this indicates lasting fair and clear weather, in summer or winter. If the leech ascends into the neck, rain or snow will follow, during which time it remains above. If windy weather is approaching, it swims about restlessly, and ceases to do so only when the wind abates. A few days before a severe thunder-storm, with rain, it remains entirely outside of the water, and throws itself about, apparently in convulsions from one side to the other.

PATHOLOGICAL INFERIORITY OF THE LEFT SIDE OF THE HUMAN BODY.

When a unilateral lesion occurs in any of the double organs of the human body the left organ is more frequently affected than the right. Thus obliterating arteritis affects the left sylvian artery; tuberculous infiltration attacks the left apex; pneumonia

the left lung ; calculus nephritis or cyst of kidney attacks the left kidney ; ovaritis or ovarian hyperæsthesia are observed in the left ovary ; orchitis attacks the left testicle. This fact is explained by the greater activity of the right side of the body and the relative passive condition of the left side produces a kind of physiological mealiness, a pathological predisposition. That the law of atomism may also explain the physiological inferiority of the left side of the human body, for in ancient times, when hand to hand fights were always occurring the activity of the right side of the body was constantly called into play.

OZONE.

R Pot. Permanganatis dr. 1, Acidi Oxalici dr. 1, moistened with twice the amount of water (by bulk), will emit ozone freely enough to ozonize a large room. The powder should be again moistened in 2 hours by a small amount of water.

OTHER MISCELLANEOUS BRIEF PRACTICAL NOTES, MEDICAL HINTS, &C. &C.

1. In selecting a **sedative**, it is not enough to know that the pulse is frequent, for frequency is but one element of the lesion and we have to determine in addition the strength or weakness of the circulation and the condition of the nervous system that controls this function. Thus when there is strength and frequency we employ *Veratrum* ; feebleness with frequency *Aconite* ; excitement of nervous system with strength *Gelsemium*.

2. Large doses of **cathartic medicines** act as aperients while small or relatively small doses produce constipation. Or conversely, drugs which may be cathartic in small and moderate doses, as Calomel, are distinctly sedative or constipated when given in large quantities.

3. *Never inject a large quantity of Morphia* than $\frac{1}{6}$ gr. in a person *unaccustomed* to the use of Morphine.

4. *Never give an injection of Morphine to a person suffering from hysteria.*

5. *Never give an injection of Morphia to a person cured of Morphia craving or habit.*

6. That **Diphtheria, Scarlet Fever and Small Pox** increase after the atmosphere is cold and dry and decrease after the temperature is warm and moist.

7. That these three diseases generally enter the body through the *air passages* and that the reason why they increase after the cold months is because of greater susceptibility of the air passages in those months.

8. That the *nonvolatile salts of the blood* exuded in excess into and upon the mucous surfaces of the air passages are capable of leading to an inflammation which is called **Influenza, Tonsillitis, Bronchitis** according to the portion of the respiratory tract involved.

9. That certain kinds of diet or non-action of skin and kidneys may predispose to inflammation of air passages and consequently to any communicable disease which enters body by way of air passages to which the person may be susceptible.

10. That the strongest controlling cause of the inflammatory diseases of air passages is exposure to a cold dry atmosphere.

11. That excepting inoculation and other similar exposure to the specific cause of the disease, the strongest controlling cause of the spread of those communicable diseases which generally enter the body through the air passages is exposure in a cold dry atmosphere.

12. That there is a remarkable **disappearance of birds** from the *cholera stricken districts* and from the *localities of epidemic fevers and cholera*.

13. Examples of **bilateral neuralgia** occur in Lead Poisoning, Ague, Bright's Disease, Scurvy, Syphilis, Tabes Dorsalis and Diabetes Mellitus.

14. **Intestinal obstruction** has been caused by swallowing *linseeds* and even *fig seeds*. They swell and collect and lodge into intestines and cause fatal occlusion. So they *should never be taken without being bruised*.

15. **Rickets** is a disease which is due principally, if not entirely, to any cause which interferes with the functions of respirations and that the precedent cause of rickets is principally some form of pulmonary inflammation such as *Brouchitis*, *Broncho-Pneumonia* or *Pneumonia*. The occurrence of rickets after *Whooping Cough* or *Measles* depends on whether there was pulmonary complication or not.

16. When a child goes lame, and complains of pain in the knee, if not injured, this is the first indication of **hip disease**, and should be looked to at once.

17. It is most common in *scrofulous children*, and the offspring of *consumptive and unhealthy parents*.

18. **The children of blood-relations**—Cousins—are, as a rule, weaker, mentally and physically, than those of strangers. This fact is also found to tell in animals and plants, and is known as ‘breeding in and in.’

19. If there be an *hereditary tendency to consumption*, great care should be taken to *maintain the health of the mother during pregnancy*.

20. **Young people inclined to consumption** have a beautiful white delicate skin, a rounded outline of face, with delicacy of features, and a rosy hue of cheeks strongly contrasting with the surrounding pallor, and often giving (especially in women) a characteristic beauty to the countenance. The hair is usually blonde or auburn, while the pupils habitually dilated.

21. Those who die from **consumption** keep longer than those who die from other causes.

22. A **frost-bitten** part should on *no account be warmed*, as rapid reaction causes inflammation and mortification of the injured member.

23. **Exposure to sudden cold, cold bathing, &c.**, is not safe in old age, in those suffering from heart disease, or in those who have a predisposition to active hemorrhage, such as bleeding at the nose, &c.

24. A Turkish bath should not be taken without medical sanction, by those who suffer from rushing of the blood to the head, or heart disease.

25. *Six or seven o'clock dinners* are more conducive to long life than late suppers as the food in their cases is digested before bedtime ; and many a fatal attack of apoplexy or heart-disease occurring during sleep has been due to an overloaded stomach.

26. Those who suffer from a *weak*—or dilated—*heart* should not take active **exercise** after a full meal ; in fact, no one should take active exercise after a full meal.

27. **Fulness of blood** causes a feeling of indolence, sleepiness, giddiness, and whilst asleep snoring and dreaming.

28. *People subject to determination of blood to the head* should have the head of the bed raised four inches by a block of wood under each of the top posts.

29. If a person in an **apoplectic fit** recovers consciousness, and then becomes unconscious again, recovery is rare. In these cases a large clot of blood is generally found pressing on the brain.

30. **Hiccough** is dangerous when it comes on *after an accident, or in the last stage of a long illness.*

31. In children a sudden fright will often cure it, and in adults a few draughts of cold water have the same effect. For further remedies, *vide* pg. 1004.

32. Rapid loss of flesh is not so dangerous as a gradual one.

33. **Old wells, beer vats, and drains,** often contain at the bottom an accumulation of *carbonic acid gas*, which is invisible and inodorous ; to enter any place containing ten per cent of this gas means death.

34. Before a person enters an old well or a vat, a **lighted candle** should be let down, and if it go out, the air is deadly. How many lives have been lost through ignorance of this little fact !

35. **Fat people** are not necessarily over-full of blood ; in fact, they often suffer from a deficiency, rather than an excess.

36. **Fat people** bear lowering measures in illness worse than thin people do.

37. People of a **Phlegmatic temperament**, who complain of inability to take exercise, are not too weak, but too indolent to do so.

38. **Oysters** in the raw state are self-digesting, but no so when cooked ; so that by invalids they should be taken raw.

39. Try planting **Sun Flowers and Eucalyptus Trees** in your garden if compelled to live in a *malarial neighbourhood*. (*Vide* pg. 257 and 638).

40. *The diseases most likely to be cured or benefited by* **change of climate** are the following : consumption, chronic bronchial affections, asthma, dyspepsia and disorders of the digestive organs, chronic gout and rheumatism, affections of the kidneys and nervous debility.



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